OM protein - protein search, using sw model

Run on: February 16, 2005, 16:08:55 ; Search time 177.989 Seconds
(without alignments)
2014.322 Million cell updates/sec

Title: US-10-003-356-8
Perfect score: 4904
Sequence: 1 MFERRKEQDEGPGIHEFLAF.....TVSTVLDDRVLIYMCPLKLQ 927

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_16Dec04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	4904	100.0	927	5	AAE24050	Aae24050 Chimeric
2	3962	80.8	912	8	ADI41024	Adi41024 Mouse phe
3	2980	60.8	755	7	ADC85997	Adc85997 Human GPC
4	2399	48.9	720	7	ADC12754	Adc12754 Human GPC
5	1986	40.5	380	5	AAE24049	Aae24049 Human V2
6	1749	35.7	365	5	ABP95621	Abp95621 Human GPC
7	1700	34.7	1059	4	AAU00508	Aau00508 Chicken c
8	1695.5	34.6	1085	2	AAW54844	Aaw54844 Bovine pa
9	1695.5	34.6	1085	2	AAW38272	Aaw38272 Bovine pa
10	1695.5	34.6	1085	2	AAY41778	Aay41778 Bovine pa
11	1695.5	34.6	1085	2	AAW89563	Aaw89563 Bovine pa
12	1695.5	34.6	1085	3	AAY51825	Aay51825 Bovine ca
13	1695.5	34.6	1085	5	AAB47820	Aab47820 BoPCaR1.
14	1695.5	34.6	1085	7	ADJ93194	Adj93194 Bovine ex
15	1695.5	34.6	1085	8	ADI40961	Adi40961 Bovine GP
16	1695.5	34.6	1085	8	ADI41015	Adi41015 Bovine GP
17	1690.5	34.5	1079	2	AAW54847	Aaw54847 Rat kidne
18	1690.5	34.5	1079	2	AAW38275	Aaw38275 Rat kidne
19	1690.5	34.5	1079	2	AAW94928	Aaw94928 Rat kidne
20	1690.5	34.5	1079	2	AAY41781	Aay41781 Rat parat
21	1690.5	34.5	1079	2	AAW89566	Aaw89566 Rat parat
22	1690.5	34.5	1079	3	AAY51828	Aay51828 Rat calci
23	1690.5	34.5	1079	5	AAB47823	Aab47823 RakCaR3A.
24	1690.5	34.5	1079	7	ADE62141	Ade62141 Rat Prote
25	1690.5	34.5	1079	7	ADE62145	Ade62145 Rat Prote
26	1690.5	34.5	1079	8	ADI41013	Adi41013 Rat GPCR
27	1690.5	34.5	1079	8	ADI40964	Adi40964 Rat GPCR
28	1690.5	34.5	1079	8	ADM47115	Adm47115 Rat calci
29	1688.5	34.4	1027	5	AAU76004	Aau76004 Shark kid
30	1688.5	34.4	1027	5	ABB78761	Abb78761 Dogfish s
31	1688.5	34.4	1027	7	ADH10917	Adh10917 Shark pol
32	1688.5	34.4	1027	7	ABW02706	Abw02706 Dogfish s
33	1688.5	34.4	1027	8	ADI19970	Adi19970 Dogfish s
34	1688.5	34.4	1078	7	ADJ93192	Adj93192 Human ext
35	1687.5	34.4	1078	2	AAW11889	Aaw11889 Parathyro
36	1687.5	34.4	1078	2	AAW54846	Aaw54846 Human par
37	1687.5	34.4	1078	2	AAW38274	Aaw38274 Human par
38	1687.5	34.4	1078	2	AAY28840	Aay28840 Human cal
39	1687.5	34.4	1078	2	AAY41780	Aay41780 Human par
40	1687.5	34.4	1078	2	AAW89565	Aaw89565 Human par
41	1687.5	34.4	1078	3	AAY51827	Aay51827 Human cal
42	1687.5	34.4	1078	3	AAY70325	Aay70325 Human wil
43	1687.5	34.4	1078	4	AAB74391	Aab74391 Protein e
44	1687.5	34.4	1078	5	AAB47822	Aab47822 HuCaR4.0.
45	1687.5	34.4	1078	6	ABP81817	Abp81817 Human cal

ALIGNMENTS

RESULT 1
AAE24050
ID AAE24050 standard; protein; 927 AA.
XX
AC AAE24050;
XX
DT 29-AUG-2003 (revised)
DT 04-OCT-2002 (first entry)
XX
DE Chimeric receptor DNA protein.
XX
KW Human; V2 vomeronasal receptor; Zvn2R1; educational tool; gene therapy;
KW receptor; murine; chimeric.
XX
OS Homo sapiens.
OS Mus sp.
OS Chimeric.
XX

FH	Key	Location/Qualifiers
FT	Domain	1. .621
FT		/note= "Extracellular domain"
FT	Peptide	1. .29
FT		/label= Signal_peptide
FT	Protein	30. .927
FT		/note= "Mature chimeric receptor protein"
FT	Domain	30. .610
FT		/note= "Ligand binding domain"
FT	Domain	622. .647
FT		/note= "Transmembrane domain-1"
FT	Domain	648. .660
FT		/note= "Intracellular domain"
FT	Domain	661. .681
FT		/note= "Transmembrane domain-2"
FT	Domain	682. .692
FT		/note= "Extracellular domain"
FT	Domain	693. .717
FT		/note= "Transmembrane domain-3"
FT	Domain	718. .735
FT		/note= "Intracellular domain"
FT	Domain	736. .755
FT		/note= "Transmembrane domain-4"
FT	Domain	756. .777
FT		/note= "Extracellular domain"
FT	Domain	778. .802
FT		/note= "Transmembrane domain-5"
FT	Domain	803. .815
FT		/note= "Intracellular domain"
FT	Domain	816. .836

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FT                   /note= "Transmembrane domain-6"
FT   Domain          837. .847
FT                   /note= "Extracellular domain"
FT   Domain          848. .872
FT                   /note= "Transmembrane domain-7"
FT   Domain          873. .927
FT                   /note= "Intracellular domain"
XX
PN   WO200242464-A2.
XX
PD   30-MAY-2002.
XX
PF   15-NOV-2001; 2001WO-US046034.
XX
PR   21-NOV-2000; 2000US-0252373P.
XX
PA   (ZYMO ) ZYMOGENETICS INC.
XX
PI   Lok S,  Holloway JL;
XX
DR   WPI; 2002-479953/51.
DR   N-PSDB; AAD39172.
XX
PT   Novel isolated human V2 vomeronasal receptor, termed Zvn2R1, for
PT   identifying presence of Zvn2R1 ligand in sample, as educational tools in
PT   laboratory practicum kits for courses related to genetics and molecular
PT   biology.
XX
PS   Claim 5; Page 93-96; 98pp; English.
XX
CC   The invention relates to an isolated human V2 vomeronasal receptor termed
CC   Zvn2R1. The Zvn2R1 nucleic acid is useful for detecting the expression of
CC   Zvn2R1 gene in a biological sample, to determine if a subject's
CC   chromosomes contain a mutation in the Zvn2R1 gene, and for therapeutic
CC   purposes. Zvn2R1 is useful as an aid to teach preparation of antibodies,
CC   identifying proteins by Western blotting, protein purification,
CC   determining the weight of expressed Zvn2R1 polypeptides as a ratio to
CC   total protein expressed, identifying peptide cleavage sites, coupling
CC   amino and carboxyl terminal tags, amino acid sequence analysis,
CC   monitoring biological activities of both the native and tagged protein in
CC   vitro and in vivo and to teach analytical skills such as mass
CC   spectrometry, circular dichroism to determine conformation, especially of
CC   the four alpha helices X-ray crystallography to determine the three-
CC   dimensional structure in atomic detail, and nuclear magnetic resonance
CC   spectroscopy to reveal the structure of proteins in solution. Zvn2R1 is
CC   useful as educational tools in laboratory practicum kits for courses
CC   related to genetics and molecular biology, protein chemistry, antibody
CC   production and analysis, and as standards or as unknowns for testing
CC   purposes. The invention is useful as a teaching aid to instruct students
CC   how to prepare affinity chromatography columns to purify Zvn2R1, and for
CC   cloning and sequencing the polynucleotide that encodes an antibody and
CC   thus as a practicum for teaching a student how to design humanised
CC   antibodies. The invention is useful in gene therapy. The present sequence
CC   is chimeric receptor protein. This chimeric sequence was designed by
CC   aligning human Zvn2R1 and murine tissue-type vomeronasal putative
CC   pheromone receptor (V2R2). (Updated on 29-AUG-2003 to standardise OS
CC   field)
XX
SQ   Sequence 927 AA;

  Query Match             100.0%;  Score 4904;  DB 5;  Length 927;
  Best Local Similarity   100.0%;  Pred. No. 0;
  Matches  927;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MFERRKEQDEGPGIHEFLAFLWAELGSEAKEEKEEERTCRLLGKCVDAENHSLVIGGLFP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MFERRKEQDEGPGIHEFLAFLWAELGSEAKEEKEEERTCRLLGKCVDAENHSLVIGGLFP 60

Qy         61 IDSRTIPANESILEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNITLGYQIFDT 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 IDSRTIPANESILEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNITLGYQIFDT 120

Qy        121 CFTISKSVEAVLVFLTGQEENRPNFRNSTGAFPAGIVGAGGSFLSVPASRILGLYYLPQV 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CFTISKSVEAVLVFLTGQEENRPNFRNSTGAFPAGIVGAGGSFLSVPASRILGLYYLPQV 180

Qy        181 GYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHFGWVWVGAIAADDDYGKYGVKT 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 GYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHFGWVWVGAIAADDDYGKYGVKT 240

Qy        241 FKEKMESANLCVAFSETIPKVYSNEKMQKAVKAVKTSTAKVIVLYTSDIDLSLFVLEMIH 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 FKEKMESANLCVAFSETIPKVYSNEKMQKAVKAVKTSTAKVIVLYTSDIDLSLFVLEMIH 300

Qy        301 HNITDRTWIATEAWITSALIAKPEYFPYFGGTIGFATPRSVIPGLKEFLYDVHPNKDPND 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 HNITDRTWIATEAWITSALIAKPEYFPYFGGTIGFATPRSVIPGLKEFLYDVHPNKDPND 360

Qy        361 VLTIEFWQTAFNCTWPNSSVPYNVDHRVNMTGKEDRLYDMSDQLCTGEEKLEDLKNTYLD 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 VLTIEFWQTAFNCTWPNSSVPYNVDHRVNMTGKEDRLYDMSDQLCTGEEKLEDLKNTYLD 420

Qy        421 TSQLRITKQCKQAVYAIAHGLDHLSRCQEGQGPFGSNQQCAYIPTFDFWQLMYYMKEIKF 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 TSQLRITKQCKQAVYAIAHGLDHLSRCQEGQGPFGSNQQCAYIPTFDFWQLMYYMKEIKF 480

Qy        481 KSHEDKWVILDDNGDLKNGHYDVLNWHLDDEGEISFVTVGRFNFRSTNFELVIPTNSTIF 540
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 KSHEDKWVILDDNGDLKNGHYDVLNWHLDDEGEISFVTVGRFNFRSTNFELVIPTNSTIF 540

Qy        541 WNTESSRLPHSVCTDVCPPGTGRGFVQREPICCFDSIPCADGHVSRKPGERECEQCGEDY 600
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 WNTESSRLPHSVCTDVCPPGTGRGFVQREPICCFDSIPCADGHVSRKPGERECEQCGEDY 600

Qy        601 WSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVVLAVTAVYVIHRHTPLVNASDWQ 660
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 WSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVVLAVTAVYVIHRHTPLVNASDWQ 660

Qy        661 LGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALGFSLCLSCLLGKTSSLFLAYRIS 720
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        661 LGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALGFSLCLSCLLGKTSSLFLAYRIS 720

Qy        721 KSKTQLTSMHPLYRKIIVLISVLAEIGICTAYLILEPPMVYKNMESQNTKIILGCNEISI 780
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        721 KSKTQLTSMHPLYRKIIVLISVLAEIGICTAYLILEPPMVYKNMESQNTKIILGCNEISI 780

Qy        781 EFLYSMFGIDAFLALLCFLTTFVARQLPDNYYEGKCITFGMLVFFIIWMSFVPVYLSTKG 840
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        781 EFLYSMFGIDAFLALLCFLTTFVARQLPDNYYEGKCITFGMLVFFIIWMSFVPVYLSTKG 840

Qy        841 KFKMAVEIFAILASSHGLLGCIFAPKCLIILLRPERNTSEIVCGRVSTTDNCIQLTSAFV 900
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        841 KFKMAVEIFAILASSHGLLGCIFAPKCLIILLRPERNTSEIVCGRVSTTDNCIQLTSAFV 900

Qy        901 SSELNNTTVSTVLDDRVLIYMCPLKLQ 927
              |||||||||||||||||||||||||||
Db        901 SSELNNTTVSTVLDDRVLIYMCPLKLQ 927


RESULT 2
ADI41024
ID   ADI41024 standard; protein; 912 AA.
XX
AC   ADI41024;
XX
DT   22-APR-2004  (first entry)
XX
DE   Mouse pheromone receptor V2R2.
XX
KW   Receptor; GPCR; G protein-coupled receptor; reproductive disorder;
KW   testicular disorder; vas deferens disorder; spermatogenesis; infertility;
KW   XX male; epididymitis; cryptorchidism; sperm transport disorder;
KW   testicular cancer; testicular germ cell tumour; male hormone disorder;
KW   premature puberty; Kallman syndrome; Cushing's syndrome; immune disorder;
KW   leukaemia; arthritis; asthma; AIDS; rheumatoid arthritis;
KW   inflammatory bowel disease; sepsis; T-cell mediated cytotoxicity;
```

KW graft-versus-host disease; autoimmunity disorder;
KW systemic lupus erythematosus; drug induced haemolytic anaemia;
KW Sjogren's disease; T-cell maturation disorder;
KW B-cell maturation disorder; vascular disorder; stroke; ischaemia;
KW myocardial infarction; atherosclerosis; gastrointestinal disorder; ulcer;
KW pulmonary disorder; brain disorder; endocrine disorder; cancer;
KW gene therapy.
XX
OS Mus musculus.
XX
PN US2004018976-A1.
XX
PD 29-JAN-2004.
XX
PF 13-MAY-2003; 2003US-00436715.
XX
PR 14-MAY-2002; 2002US-0380336P.
XX
PA (FEDE/) FEDER J N.
PA (MINT/) MINTIER G.
PA (RAMA/) RAMANATHAN C S.
XX
PI Feder JN, Mintier G, Ramanathan CS;
XX
DR WPI; 2004-122081/12.
XX
PT New human G-protein coupled receptor polypeptide and polynucleotide,
PT useful for diagnosing, preventing, treating or ameliorating a medical
PT condition, e.g. reproductive disorder, immunodeficiency disease or
PT testicular cancer.
XX
PS Disclosure; SEQ ID NO 84; 290pp; English.
XX
CC The invention relates to an isolated human G protein-coupled receptor
CC polypeptide and its encoding polynucleotide, including the full length
CC proteins minus the start methionine (and the region of the polynucleotide
CC encoding this protein region). The proteins are designated HGPRBMY30-1,
CC HGPRBMY30-2, HGPRBMY30-3, HGPRBMY41-1, HGPRBMY41-2, HGPRBMY41-3,
CC HGPRBMY42, HGPRBMY42-1, HGPRBMY43 and HGPRBMY44. Also included are
CC expression vectors, host cells, antibodies, preventing (treating or
CC ameliorating) a medical condition comprising administering to a mammalian
CC subject the polypeptide or its modulator and diagnosing a pathological
CC condition or a susceptibility to a pathological condition in a subject
CC (comprising determining the presence or absence of a mutation in the
CC polynucleotide, or the presence or amount of expression of the
CC polypeptide in a biological sample and diagnosing a pathological
CC condition or a susceptibility to a pathological condition based on the
CC presence or absence of the mutation, or the presence or amount of
CC expression of the polypeptide). The human G-protein coupled receptor
CC polypeptide or polynucleotide can be used for diagnosing a pathological
CC condition or a susceptibility to a pathological condition in a subject,
CC and for preventing, treating or ameliorating a medical condition, such as
CC a disorder related to aberrant G-protein coupled receptor activity, a
CC disorder related to aberrant signal transduction, a reproductive disorder
CC ; a male reproductive disorder, a testicular disorder, a vas deferens
CC disorder, spermatogenesis, infertility, Klinefelter's syndrome, XX male,
CC epididymitis, genital warts, germinal cell aplasia, cryptorchidism,
CC varicocele, immotile cilia syndrome, viral orchitis, sperm transport
CC disorders, testicular cancer, choriocarcinoma, non-seminoma, seminoma,
CC testicular germ cell tumours, male hormone disorders, premature puberty,
CC incomplete puberty, Kallman syndrome, Cushing's syndrome, an immune
CC disorder, a proliferative immune disorder, leukaemia, arthritis, asthma,
CC immunodeficiency diseases such as AIDS, rheumatoid arthritis,
CC granulomatous disease, inflammatory bowel disease, sepsis, acne,
CC neutropenia, neutrophilia, psoriasis, hypersensitivities, such as T-cell
CC mediated cytotoxicity, immune reactions to transplanted organs and
CC tissues, such as host-versus-graft and graft-versus-host diseases, or
CC autoimmunity disorders, such as autoimmune infertility, demyelination,
CC systemic lupus erythematosus, drug induced haemolytic anaemia, Sjogren's
CC disease, scleroderma, T-cell maturation disorders, B-cell maturation
CC disorders, vascular disorders, stroke, ischaemia, myocardial infarction,
CC atherosclerosis, embolisms, thrombosis, gastrointestinal disorders,
CC irritable bowel syndrome, ulcers, pulmonary disorders, brain disorders,
CC endocrine disorders, or ovarian, stomach, colon or kidney cancer or its
CC related proliferative condition (many other diseases and disorders are
CC listed in the specification). The antibodies may be used to purify,
CC detect and target the G-protein coupled receptor polypeptides. The
CC polynucleotides are also useful in gene therapy. The present sequence
CC represents a species homologue of a novel GPCR of the invention.
XX
SQ Sequence 912 AA;

Query Match 80.8%; Score 3962; DB 8; Length 912;
Best Local Similarity 82.6%; Pred. No. 0;
Matches 747; Conservative 62; Mismatches 87; Indels 8; Gaps 2;

```
Qy      17 FLAFLWAELGSEAKEEKEEERTCRLLGK-----CVDAENHSLVIGGLFPIDSRTIPANES 71
           ||||||| ||:   : | ||  |||: |      |||:|||||| ||||| || || :|:
Db      12 FLAFLWAVLGA---QNKTEEVQCRLMAKFNLSGYVDAKNHSLVIAGLFPIHSRIIPVDEA 68

Qy      72 ILEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNITLGYQIFDTCFTISKSVEAV 131
           |||| |  ||||||: ||||| ||| ||||:|||||||  |||||||:|:|||||::|:
Db      69 ILEPVSPMCEGFNFRGFRWMKTMIHTIKEINERKDILPNHTLGYQIFDSCYTISKAMESS 128

Qy     132 LVFLTGQEENRPNFRNSTGAFPAGIVGAGGSFLSVPASRILGLYYLPQVGYTSTCVILSD 191
           ||||||||| :|||||||:  | :||:||| ||| |||||||||:|||||||:| ||||
Db     129 LVFLTGQEEFKPNFRNSTGSTLAALVGSGGSSLSVAASRILGLYYMPQVGYTSSCSILSD 188

Qy     192 KYQFPSYLRVIASDKIQSKAVVKRIQHFGWVWVGAIAADDDYGKYGVKTFKEKMESANLC 251
           |:|||||||: || :||:|:|  |:|||||||||||||||||||||||||||||||||||
Db     189 KFQFPSYLRVLPSDNLQSEAIVNLIKHFGWVWVGAIAADDDYGKYGVKTFKEKMESANLC 248

Qy     252 VAFSETIPKVYSNEKMQKAVKAVKTSTAKVIVLYTSDIDLSLFVLEMIHHNITDRTWIAT 311
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     249 VAFSETIPKVYSNEKMQKAVKAVKTSTAKVIVLYTSDIDLSLFVLEMIHHNITDRTWIAT 308

Qy     312 EAWITSALIAKPEYFPYFGGTIGFATPRSVIPGLKEFLYDVHPNKDPNDVLTIEFWQTAF 371
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     309 EAWITSALIAKPEYFPYFGGTIGFATPRSVIPGLKEFLYDVHPNKDPNDVLTIEFWQTAF 368

Qy     372 NCTWPNSSVPYNVDHRVNMTGKEDRLYDMSDQLCTGEEKLEDLKNTYLDTSQLRITKQCK 431
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     369 NCTWPNSSVPYNVDHRVNMTGKEDRLYDMSDQLCTGEEKLEDLKNTYLDTSQLRITKQCK 428

Qy     432 QAVYAIAHGLDHLSRCQEGQGPFGSNQQCAYIPTFDFWQLMYYMKEIKFKSHEDKWVILD 491
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     429 QAVYAIAHGLDHLSRCQEGQGPFGSNQQCAYIPTFDFWQLMYYMKEIKFKSHEDKWVILD 488

Qy     492 DNGDLKNGHYDVLNWHLDDEGEISFVTVGRFNFRSTNFELVIPTNSTIFWNTESSRLPHS 551
           |||||||||||||||||||||||||||||||||||||||||||||||||||||||||| | |
Db     489 DNGDLKNGHYDVLNWHLDDEGEISFVTVGRFNFRSTNFELVIPTNSTIFWNTESSRRPDS 548

Qy     552 VCTDVCPPGTGRGFVQREPICCFDSIPCADGHVSRKPGERECEQCGEDYWSNAQKSECVL 611
           || |||||| :|  | :|||||| ||||||:|| | |:|||: |||| |||| ||:||
Db     549 FCTQVCPPGTRKGIRQGQPICCFDCIPCADGYVSEKSGQRECDPCGEDDWSNAGKSKCVP 608

Qy     612 KEVEYLAYDEALGFTLVILSVFGAFVVLAVTAVYVIHRHTPLVNASDWQLGFLIQVSLII 671
           | ||:||| |||||||||||:||| |||||| |||||||||| |:| :| ||||:||:|
Db     609 KLVEFLAYGEALGFTLVILSIFGALVVLAVTVVYVIHRHTPLVKANDRELSFLIQMSLVI 668

Qy     672 MLLSSMLFIDKPHNWSCMAGQVTLALGFSLCLSCLLGKTSSLFLAYRISKSKTQLTSMHP 731
           :|||:||| || |||||| |:|||||| |||| :|||| ||| ||||| |||:| ||||
Db     669 TVLSSLLFIGKPCNWSCMARQITLALGFCLCLSSILGKTISLFFAYRISVSKTRLISMHP 728

Qy     732 LYRKIIVLISVLAEIGICTAYLILEPPMVYKNMESQNTKIILGCNEISIEFLYSMFGIDA 791
           ::||:|||: |: |||:| |||:|||| ::||:| || |||  ||| |:||| |:|| |
Db     729 IFRKLIVLVCVVGEIGVCAAYLVLEPPRMFKNIEIQNVKIIFECNEGSVEFLCSIFGFDV 788

Qy     792 FLALLCFLTTFVARQLPDNYYEGKCITFGMLVFFIIWMSFVPVYLSTKGKFKMAVEIFAI 851
           |||||||||||||||||||||||||||||||:|:|||| |||||||||:|||||||
Db     789 LRALLCFLTTFVARQLPDNYYEGKCITFGMLVFFIVWISFVPAYLSTKGKFKVAVEIFAI 848

Qy     852 LASSHGLLGCIFAPKCLIILLRPERNTSEIVCGRVSTTDNCIQLTSAFVSSELNNTTVST 911
           ||||:|||||:| ||| ||||||:||| | | ||| | |  |||||| ||||||:|||||
Db     849 LASSYGLLGCLFLPKCFIILLRPKRNTDETVGGRVPTVDRSIQLTSASVSSELNSTTVST 908
```

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Qy        912 VLDD 915
              |||:
Db        909 VLDE 912


RESULT 3
ADC85997
ID   ADC85997 standard; protein; 755 AA.
XX
AC   ADC85997;
XX
DT   01-JAN-2004  (first entry)
XX
DE   Human GPCR protein SEQ ID NO:450.
XX
KW   human; GPCR; guanosine triphosphate-binding protein coupled receptor;
KW   gene therapy.
XX
OS   Homo sapiens.
XX
PN   EP1270724-A2.
XX
PD   02-JAN-2003.
XX
PF   18-JUN-2002; 2002EP-00013517.
XX
PR   18-JUN-2001; 2001JP-00246789.
XX
PA   (NAAD-) NAT INST ADVANCED IND SCI & TECHNOLOGY.
PA   (ADSC-) CENT ADVANCED SCI & TECHNOLOGY INCUBATIO.
XX
PI   Suwa M,  Asai K,  Akiyama Y,  Aburatani H;
XX
DR   WPI; 2003-315783/31.
DR   N-PSDB; ADC85996.
XX
PT   New polynucleotide, useful for preparing a composition for treating a
PT   patient in need of increased or suppressed activity or expression of the
PT   guanosine triphosphate-binding protein coupled receptor.
XX
PS   Claim 2; SEQ ID NO 450; 28pp; English.
XX
CC   The invention relates to a novel polynucleotide encoding a guanosine
CC   triphosphate-binding protein coupled receptor (GPCR). A polynucleotide of
CC   the invention may have a use in gene therapy. The polynucleotide and
CC   polypeptide are useful for preparing a composition for treating a patient
CC   in need of increased or suppressed activity or expression of the
CC   guanosine triphosphate-binding protein coupled receptor. The protein
CC   sequences shown in ADC85549-ADC87617 represent GPCR's of the invention.
XX
SQ   Sequence 755 AA;

  Query Match            60.8%;  Score 2980;  DB 7;  Length 755;
  Best Local Similarity  66.1%;  Pred. No. 4.3e-265;
  Matches  621;  Conservative   34;  Mismatches   88;  Indels  196;  Gaps   13;

Qy          1 MFERRKEQDEGPGIHEFLAFLWAELGSEAKEEKEEERTCRLLGKCVDAENHSLVIGGLFP 60
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MFERRKEQDEGPGIHEFLAFLWAELGSEAKEEKEEERTCRLLGKCVDAENHSLVIGGLFP 60

Qy         61 IDSRTIPANESILEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNITLGYQIFDT 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 IDSRTIPANESILEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNITLGYQIFDT 120

Qy        121 CFTISKSVEAVLVFLTGQEENRPNFRNSTGAFPAGIVGAGGSFLSVPASRILGLYYLPQV 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CFTISKSVEAVLVFLTGQEENRPNFRNSTGAFPAGIVGAGGSFLSVPASRILGLYYLPQV 180

Qy        181 GYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHFGWVWVGAIAADDDYGKYGVKT 240
              |||||||||||||||||||||||||||||||||||| ::                    |
Db        181 GYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHFHFL----------------T 223

Qy        241 FKEKMESANLCVAFSETIPKVYSNEKMQKAVKAVKTSTAKVIVLYTSDIDLSLFVLEMIH 300
```

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              ::| :  :|                                                  |
Db        224 LSPRLECSGAILA----------------------------------------------H 237

Qy        301 HNITDRTWIATEAWITSALIAKPEYFPYFGGTIGFATPRSVIPGLKEFLYDVHPNKDPND 360
              |:
Db        238 GNL------------------------------------------------------- 240

Qy        361 VLTIEFWQTAFNCTWPNSSVPYNVDHRVNMTGKEDRLYDMSDQLC-TGEEKLEDLKNTYL 419
              | :|                  ||              |   :  || | : ||
Db        241 CLPVE------------------------TG----------FCHVAQAGLEFLASNYL 264

Qy        420 DTSQLRITKQCKQAVYAIAHGLDHLSRCQEGQGPFGSNQQCAYIPTFDFWQL---MYYMK 476
              | :       :  ::|                ||:  | : | :  :|:
Db        265 TASASQ-----SAGITGVSH--------------------CAWPSTIELWIIQFHIYFRM 299

Qy        477 EIKFKSHEDKWVILDDNGDLKNGHYDVLNWHLDDEGEISFV--TVGRFNFRSTNFELVIP 534
               :  :      :|: :|::   :  |    :       | | |  :      |  ::
Db        300 NCRVTTESRSVAMLEYSGEISAHCHLCLLGSSNSPASAPLVAGTTGAHHHAQLIFVFLVE 359

Qy        535 TNSTIFWNTESSRLPHSV-----CTDVCP-PGTGRGFVQREPICCFDSIPCADGHVSRKP 588
              |    | :    |  |:     |  :|   | ||||||||||||||||||||||||||||
Db        360 TG---FHHVSQDGLDLSISFPIQCVLMCVLLGLGRGFVQREPICCFDSIPCADGHVSRKP 416

Qy        589 GERECEQCGEDYWSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVVLAVTAVYVIH 648
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        417 GERECEQCGEDYWSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVVLAVTAVYVIH 476

Qy        649 RHTPLVNASDWQLGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALGFSLCLSCLLG 708
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        477 RHTPLVNASDWQLGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALGFSLCLSCLLG 536

Qy        709 KTSSLFLAYRISKSKTQLTSMHPLYRKIIVLISVLAEIGICTAYLILEPPMVYKNMESQN 768
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        537 KTSSLFLAYRISKSKTQLTSMHPLYRKIIVLISVLAEIGICTAYLILEPPMVYKNMESQN 596

Qy        769 TKIILGCNEISIEFLYSMFGIDAFLALLCFLTTFVARQLPDNYYEGKCITFGMLVFFIIW 828
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        597 TKIILGCNEISIEFLYSMFGIDAFLALLCFLTTFVARQLPDNYYEGKCITFGMLVFFIIW 656

Qy        829 MSFVPVYLSTKGKFKMAVEIFAILASSHGLLGCIFAPKCLIILLRPERNTSEIVCGRVST 888
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        657 MSFVPVYLSTKGKFKMAVEIFAILASSHGLLGCIFAPKCLIILLRPERNTSEIVCGRVST 716

Qy        889 TDNCIQLTSAFVSSELNNTTVSTVLDDRVLIYMCPLKLQ 927
              |||||||||||||||||||||||||||||||||||||||
Db        717 TDNCIQLTSAFVSSELNNTTVSTVLDDRVLIYMCPLKLQ 755


RESULT 4
ADC12754
ID   ADC12754 standard; protein; 720 AA.
XX
AC   ADC12754;
XX
DT   18-DEC-2003  (first entry)
XX
DE   Human GPCR protein, SEQ ID No 86.
XX
KW   G protein-coupled receptor; GPCR; antibacterial; fungicide; protozoacide;
KW   virucide; antirheumatic; antiarthritic; tranquiliser; antidiabetic;
KW   osteopathic; nootropic; neuroprotective; anorectic; cardiant;
KW   neuroleptic; cytostatic; antiparkinsonian; hypotensive; hypertensive;
KW   antiulcer; antiallergic; anticonvulsant; analgesic; infection;
KW   rheumatoid arthritis; chronic obstructive pulmonary diseases; COPD;
KW   asthma; non-insulin dependent diabetes; obesity; osteoporosis;
KW   Alzheimer's disease; age-related macular degeneration;
KW   myocardial infarction; schizophrenia; osteoarthritis; cancer;
KW   Parkinson's disease; congestive heart failure; hypotension; hypertension;
KW   ulcer; allergy; benign prostatic hyperplasia; seizure disorder; anxiety;
KW   obsessive compulsive disorder; Cushing's syndrome; hypopituitarism; pain;
KW   human.
XX
OS   Homo sapiens.
```

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XX
PN   WO2003000893-A2.
XX
PD   03-JAN-2003.
XX
PF   24-JUN-2002; 2002WO-IB002357.
XX
PR   26-JUN-2001; 2001US-0301095P.
PR   06-NOV-2001; 2001US-0333185P.
XX
PA   (DECO-) DECODE GENETICS EHF.
XX
PI   Martinez RMA,  Sigurdsson GT;
XX
DR   WPI; 2003-210155/20.
DR   N-PSDB; ADC12753.
XX
PT   New G protein-coupled receptor (GPCR) genes and polypeptides, useful for
PT   diagnosing diseases associated with a GPCR, or in gene therapy for
PT   treating e.g. obesity, osteoporosis, Alzheimer's, cancers or congestive
PT   heart failure.
XX
PS   Claim 10; SEQ ID NO 86; 253pp; English.
XX
CC   The invention relates to a novel isolated nucleic acid of a G protein-
CC   coupled receptor (GPCR) gene comprising any of 62 sequences of 912-2454
CC   bp, or its complements; a GPCR polypeptide comprising any of 62 sequences
CC   of 291-818 amino acids; or a nucleic acid that hybridises, under high
CC   stringency conditions, with any of the 62 GPCR sequences or any of their
CC   complements. The GPCR agents of the invention have the following
CC   activities: antibacterial, fungicide, protozoacide, virucide,
CC   antirheumatic, tranquiliser, antiarthritic, antidiabetic, osteopathic,
CC   nootropic, neuroprotective, anorectic, cardiant, neuroleptic, cytostatic,
CC   antiparkinsonian, hypotensive, hypertensive, antiulcer, antiallergic,
CC   anticonvulsant, and analgesic. The GPCR therapeutic agent, particularly a
CC   GPCR gene agonist or antagonist, is useful for treating a disease or
CC   condition associated with a GPCR in an individual. The nucleic acid cited
CC   above, which is 100 or fewer nucleotides in length, is useful for
CC   assaying a sample for the presence of the GPCR gene nucleic acid or a
CC   GPCR gene nucleic acid with at least one nucleotide difference from a
CC   first nucleic acid, or for diagnosing a susceptibility to a disease or
CC   conditions associated with a GPCR. These diseases include infections
CC   (e.g. bacterial, fungal, protozoan or viral), rheumatoid arthritis,
CC   chronic obstructive pulmonary diseases (COPD), asthma, non-insulin
CC   dependent diabetes, obesity, osteoporosis, Alzheimer's disease, age-
CC   related macular degeneration, myocardial infarction, schizophrenia,
CC   osteoarthritis, cancers, Parkinson's diseases, congestive heart failure,
CC   hypotension, hypertension, ulcers, allergies, benign prostatic
CC   hyperplasia, seizure disorder, anxiety, obsessive compulsive disorder,
CC   Cushing's syndrome, hypopituitarism, or pain. This sequence represents
CC   one of the 62 GPCR proteins of the invention.
XX
SQ   Sequence 720 AA;

  Query Match             48.9%;  Score 2399;  DB 7;  Length 720;
  Best Local Similarity   63.5%;  Pred. No. 1.7e-211;
  Matches  524;  Conservative   43;  Mismatches  104;  Indels  154;  Gaps   22;

Qy         83 FNFQRFRWMKAMIHMIKEINKRKDILPNITLGYQIFDTCFTISKSVEAVLVFLTGQEENR 142
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 FNFQRFRWMKAMIHMIKEINKRKDILPNITLGYQIFDTCFTISKSVEAVLVFLTGQEENR 86

Qy        143 PNFRNSTGAFPAGIVGAGGSFLSVPASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVI 202
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 PNFRNSTGAFPAGIVGAGGSFLSVPASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVI 146

Qy        203 ASDKIQSKAVVKRIQHFGWVWV-------GAIAADDDYGKYGVKTFKEKMESANLCVAFS 255
              |||||||||||||||| :: :       ||| |                  |||:  :
Db        147 ASDKIQSKAVVKRIQHFHFLTLSPRLECSGAILA----------------HGNLCLPVA 189

Qy        256 ETIPKVYSNEKMQKAVKAVKTSTAKVIVLYTSDIDLSLFVLE--MIHHNITDRTWIATEA 313
                |  | : ::                    : :|::|    |    |   :   |
Db        190 -GITGVCHHARL---------------------IFVFLVETGFCHVAQADGVSLCCHA 225

Qy        314 WITSALIAKPEYFPYFGGTIGFATPRSVIPGLKEFLYDVHPNKDPNDVLTIEFWQTAFNC 373
                : ::    |  |  || |      :|     |::  :         :|:   |   :|
Db        226 GVYNS----PASAPLVAGTTGAHHHAQLI-----FVFLRY--------VTLLSLQKGQSC 268

Qy        374 TWPNSSVPYNVDHRVNMTGKEDRLYDMSDQLCTGEEKLEDLKNTYLDTSQLRITKQCKQA 433
                ||  : |     '                    |||  :  :   |:
Db        269 --PNVFMHY----------------------LGEEYFQHREQHLLNPEA---------- 293

Qy        434 VYAIAHGLDHLSRCQEGQGPFGSNQQCAYIPTFDFWQ---LMY-YMKEIKFKSHEDKWVI 489
                 :|  |:   |  | |                  |:   ::| |   : : :   : ||
Db        294 --RVAGTLEEQKRSQCG-----------------WKDLSIVYTYFCNVMYHNLAQRLVI 333

Qy        490 LD--DNGDL--KNGHYDVLNWHLDDEGEISFVTVGRFNFRSTNFELVIPTNSTIFWNTES 545
                  | ||  |  |  :|              : : | :   | |    :|   ||  |
Db        334 FSMLFNSDLLWKTQHMKIL-------------ISKINIKGKYF-LGFQDDS---WNHRS 375

Qy        546 --SR---LPHSVCTDVCPPGTGRGF-VQREPICCFDSIPCADGHVSRKPGERECEQCGED 599
                  ||   |||||||||||||| :|   :|||||||||||||||||||||||||||||||
Db        376 FTSRNRPLPHSVCTDVCPPGTRKGIRSEGEPICCFDSIPCADGHVSRKPGERECEQCGED 435

Qy        600 YWSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVVLAVTAVYVIHRHTPLVNASDW 659
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        436 YWSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVVLAVTAVYVIHRHTPLVNASDW 495

Qy        660 QLGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALGFSLCLSCLLGKTSSLFLAYRI 719
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        496 QLGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALGFSLCLSCLLGKTSSLFLAYRI 555

Qy        720 SKSKTQLTSMHPLYRKIIVLISVLAEIGICTAYLILEPPMVYKNMESQNTKIILGCNEIS 779
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        556 SKSKTQLTSMHPLYRKIIVLISVLAEIGICTAYLILEPPMVYKNMESQNTKIILGCNEIS 615

Qy        780 IEFLYSMFGIDAFLALLCFLTTFVARQLPDNYYEGKCITFGMLVFFIIWMSFVPVYLSTK 839
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        616 IEFLYSMFGIDAFLALLCFLTTFVARQLPDNYYEGKCITFGMLVFFIIWMSFVPVYLSTK 675

Qy        840 GKFKMAVEIFAILASSHGLLGCIFAPKCLIILLRPERNTSEIVCG 884
              |||||||||||||||||||||||||||||||||||||||||||||
Db        676 GKFKMAVEIFAILASSHGLLGCIFAPKCLIILLRPERNTSEIVCG 720


RESULT 5
AAE24049
ID   AAE24049 standard; protein; 380 AA.
XX
AC   AAE24049;
XX
DT   04-OCT-2002  (first entry)
XX
DE   Human V2 vomeronasal receptor (Zvn2R1) C-terminal protein.
XX
KW   Human; V2 vomeronasal receptor; Zvn2R1; educational tool; gene therapy;
KW   receptor.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Domain          75. .100
FT                   /note= "Transmembrane domain-1"
FT   Domain          101. .113
FT                   /note= "Intracellular domain"
FT   Domain          114. .134
FT                   /note= "Transmembrane domain-2"
FT   Domain          135. .145
FT                   /note= "Extracellular domain"
FT   Domain          146. .170
FT                   /note= "Transmembrane domain-3"
FT   Domain          171. .188
FT                   /note= "Intracellular domain"
FT   Domain          189. .208
FT                   /note= "Transmembrane domain-4"
FT   Domain          209. .230
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FT                   /note= "Extracellular domain"
FT   Domain          231. .255
FT                   /note= "Transmembrane domain-5"
FT   Domain          256. .268
FT                   /note= "Intracellular domain"
FT   Domain          269. .289
FT                   /note= "Transmembrane domain-6"
FT   Domain          290. .330
FT                   /note= "Extracellular domain"
FT   Domain          326. .380
FT                   /note= "Intracellular domain"
FT   Domain          331. .325
FT                   /note= "Transmembrane domain-7"
XX
PN   WO200242464-A2.
XX
PD   30-MAY-2002.
XX
PF   15-NOV-2001; 2001WO-US046034.
XX
PR   21-NOV-2000; 2000US-0252373P.
XX
PA   (ZYMO ) ZYMOGENETICS INC.
XX
PI   Lok S,  Holloway JL;
XX
DR   WPI; 2002-479953/51.
DR   N-PSDB; AAD39170.
XX
PT   Novel isolated human V2 vomeronasal receptor, termed Zvn2R1, for
PT   identifying presence of Zvn2R1 ligand in sample, as educational tools in
PT   laboratory practicum kits for courses related to genetics and molecular
PT   biology.
XX
PS   Claim 1; Page 85-86; 98pp; English.
XX
CC   The invention relates to an isolated human V2 vomeronasal receptor termed
CC   Zvn2R1. The Zvn2R1 nucleic acid is useful for detecting the expression of
CC   Zvn2R1 gene in a biological sample, to determine if a subject's
CC   chromosomes contain a mutation in the Zvn2R1 gene, and for therapeutic
CC   purposes. Zvn2R1 is useful as an aid to teach preparation of antibodies,
CC   identifying proteins by Western blotting, protein purification,
CC   determining the weight of expressed Zvn2R1 polypeptides as a ratio to
CC   total protein expressed, identifying peptide cleavage sites, coupling
CC   amino and carboxyl terminal tags, amino acid sequence analysis,
CC   monitoring biological activities of both the native and tagged protein in
CC   vitro and in vivo and to teach analytical skills such as mass
CC   spectrometry, circular dichroism to determine conformation, especially of
CC   the four alpha helices X-ray crystallography to determine the three-
CC   dimensional structure in atomic detail, and nuclear magnetic resonance
CC   spectroscopy to reveal the structure of proteins in solution. Zvn2R1 is
CC   useful as educational tools in laboratory practicum kits for courses
CC   related to genetics and molecular biology, protein chemistry, antibody
CC   production and analysis, and as standards or as unknowns for testing
CC   purposes. The invention is useful as a teaching aid to instruct students
CC   how to prepare affinity chromatography columns to purify Zvn2R1, and for
CC   cloning and sequencing the polynucleotide that encodes an antibody and
CC   thus as a practicum for teaching a student how to design humanised
CC   antibodies. The invention is useful in gene therapy. The present sequence
CC   is human Zvn2R1 C-terminal protein
XX
SQ   Sequence 380 AA;

  Query Match             40.5%;  Score 1986;  DB 5;  Length 380;
  Best Local Similarity   100.0%;  Pred. No. 7.7e-174;
  Matches  380;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy        548 LPHSVCTDVCPPGTGRGFVQREPICCFDSIPCADGHVSRKPGERECEQCGEDYWSNAQKS 607
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 LPHSVCTDVCPPGTGRGFVQREPICCFDSIPCADGHVSRKPGERECEQCGEDYWSNAQKS 60

Qy        608 ECVLKEVEYLAYDEALGFTLVILSVFGAFVVLAVTAVYVIHRHTPLVNASDWQLGFLIQV 667
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ECVLKEVEYLAYDEALGFTLVILSVFGAFVVLAVTAVYVIHRHTPLVNASDWQLGFLIQV 120

Qy        668 SLIIMLLSSMLFIDKPHNWSCMAGQVTLALGFSLCLSCLLGKTSSLFLAYRISKSKTQLT 727
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 SLIIMLLSSMLFIDKPHNWSCMAGQVTLALGFSLCLSCLLGKTSSLFLAYRISKSKTQLT 180

Qy        728 SMHPLYRKIIVLISVLAEIGICTAYLILEPPMVYKNMESQNTKIILGCNEISIEFLYSMF 787
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 SMHPLYRKIIVLISVLAEIGICTAYLILEPPMVYKNMESQNTKIILGCNEISIEFLYSMF 240

Qy        788 GIDAFLALLCFLTTFVARQLPDNYYEGKCITFGMLVFFIIWMSFVPVYLSTKGKFKMAVE 847
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 GIDAFLALLCFLTTFVARQLPDNYYEGKCITFGMLVFFIIWMSFVPVYLSTKGKFKMAVE 300

Qy        848 IFAILASSHGLLGCIFAPKCLIILLRPERNTSEIVCGRVSTTDNCIQLTSAFVSSELNNT 907
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 IFAILASSHGLLGCIFAPKCLIILLRPERNTSEIVCGRVSTTDNCIQLTSAFVSSELNNT 360

Qy        908 TVSTVLDDRVLIYMCPLKLQ 927
              ||||||||||||||||||||
Db        361 TVSTVLDDRVLIYMCPLKLQ 380


RESULT 6
ABP95621
ID   ABP95621 standard; protein; 365 AA.
XX
AC   ABP95621;
XX
DT   06-MAR-2003  (first entry)
XX
DE   Human GPCR polypeptide SEQ ID NO 52.
XX
KW   Human; GPCR; G protein coupled receptor; signal transduction; olfactory;
KW   drug development; gustatory; taste; fragrance; receptor.
XX
OS   Homo sapiens.
XX
PN   WO200216548-A2.
XX
PD   28-FEB-2002.
XX
PF   30-JUL-2001; 2001WO-IB001446.
XX
PR   04-AUG-2000; 2000JP-00237818.
PR   13-FEB-2001; 2001JP-00034434.
XX
PA   (NISC-) JAPAN SCI & TECHNOLOGY CORP.
XX
PI   Haga T,  Takeda S,  Mitaku S;
XX
DR   WPI; 2002-304118/34.
DR   N-PSDB; ABZ42895.
XX
PT   Database global search for G protein-coupled receptors, proteins and
PT   encoded genes for studying in vivo signal transduction mechanism and
PT   identifying targets for drug development.
XX
PS   Claim 10; SEQ ID NO 52; 97pp + Sequence Listing; Japanese.
XX
CC   The invention relates to a method for screening G protein-coupled
CC   receptor (GPCR) genes (ABZ42870-ABZ43216) and/or GPCR proteins (ABP95596-
CC   ABP95942) by extracting open-reading frames containing 6-8 transmembrane
CC   domains with 250-1000 amino acid residues to give a gene homologous with
CC   a known GPCR gene. The receptor proteins and encoded genes are useful for
CC   studying in vivo signal transduction mechanism and identifying targets
CC   for drug development e.g. based on olfactory and gustatory receptors in
CC   form of agonists and antagonists by screening intrinsic and extrinsic
CC   ligands as bitter taste inhibitors, taste enhancers and fragrance
CC   improvers. Note: The sequence data for this patent did not form part of
CC   the printed specification, but was obtained in electronic format directly
CC   from WIPO at ftp.wipo.int/pub/published_pct_sequences
XX
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SQ   Sequence 365 AA;

  Query Match             35.7%;  Score 1749;  DB 5;  Length 365;
  Best Local Similarity   99.1%;  Pred. No. 5.4e-152;
  Matches  341;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy        584 VSRKPGERECEQCGEDYWSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVVLAVTA 643
              | |  ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         22 VLRSIGERECEQCGEDYWSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVVLAVTA 81

Qy        644 VYVIHRHTPLVNASDWQLGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALGFSLCL 703
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         82 VYVIHRHTPLVNASDWQLGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALGFSLCL 141

Qy        704 SCLLGKTSSLFLAYRISKSKTQLTSMHPLYRKIIVLISVLAEIGICTAYLILEPPMVYKN 763
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        142 SCLLGKTSSLFLAYRISKSKTQLTSMHPLYRKIIVLISVLAEIGICTAYLILEPPMVYKN 201

Qy        764 MESQNTKIILGCNEISIEFLYSMFGIDAFLALLCFLTTFVARQLPDNYYEGKCITFGMLV 823
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        202 MESQNTKIILGCNEISIEFLYSMFGIDAFLALLCFLTTFVARQLPDNYYEGKCITFGMLV 261

Qy        824 FFIIWMSFVPVYLSTKGKFKMAVEIFAILASSHGLLGCIFAPKCLIILLRPERNTSEIVC 883
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        262 FFIIWMSFVPVYLSTKGKFKMAVEIFAILASSHGLLGCIFAPKCLIILLRPERNTSEIVC 321

Qy        884 GRVSTTDNCIQLTSAFVSSELNNTTVSTVLDDRVLIYMCPLKLQ 927
              |||||||||||||||||||||||||||||||||||||||||||||
Db        322 GRVSTTDNCIQLTSAFVSSELNNTTVSTVLDDRVLIYMCPLKLQ 365


RESULT 7
AAU00508
ID   AAU00508 standard; protein; 1059 AA.
XX
AC   AAU00508;
XX
DT   29-AUG-2001  (first entry)
XX
DE   Chicken calcium-sensitive receptor (CaR) protein.
XX
KW   Avian; chicken; calcium-sensing receptor; CaR; clone C1D;
KW   extracellular calcium homeostasis; parathyroid hormone; PTH;
KW   serum calcium regulator; bone deposition.
XX
OS   Gallus sp.
XX
FH   Key             Location/Qualifiers
FT   Domain          1. .611
FT                   /label= Extracellular_domain
FT                   /note= "Amino-terminal predominantly hydrophilic domain"
FT   Peptide         1. .19
FT                   /label= Signal_peptide
FT   Protein         20. .1059
FT                   /label= Mature_CaR_protein
FT   Region          136. .165
FT                   /note= "Hydrophobic region characteristic of calcium-
FT                   sensing receptors and metabotropic glutamate receptors"
FT   Domain          612. .861
FT                   /note= "Hydrophobic core comprising helical transmembrane
FT                   domains"
FT   Domain          862. .1059
FT                   /note= "Carboxy-terminal hydrophilic domain"
XX
PN   US6210964-B1.
XX
PD   03-APR-2001.
XX
PF   14-AUG-1998;   98US-00134513.
XX
PR   18-AUG-1997;   97US-0058095P.
XX
PA   (BGHM ) BRIGHAM & WOMENS HOSPITAL INC.
XX
PI   Brown EM,  Diaz R,  Bai M,  Quinn SJ;
XX
DR   WPI; 2001-289636/30.
DR   N-PSDB; AAS01709.
XX
PT   New avian calcium-sensing receptor polynucleotide and encoded receptor
PT   protein, useful for regulating serum concentration of calcium animals,
PT   particularly in chickens.
XX
PS   Claim 1; Fig 2A-2D; 43pp; English.
XX
CC   The present sequence representing an avian (chicken) calcium-sensing
CC   receptor (CaR) is isolated from chicken parathyroid gland cDNA clone C1D.
CC   CaR is involved in regulating extracellular calcium homeostasis by
CC   controlling PTH (parathyroid hormone) secretion. The polynucleotide
CC   encoding CaR is useful for producing calcium-sensing receptor protein,
CC   which can be used to regulate extracellular calcium homeostasis and to
CC   regulate serum calcium levels in chickens and related species. By
CC   increasing serum calcium, more rapid growth is obtained due to an
CC   increased rate of bone deposition, and eggs of higher quality are
CC   produced. A DNA construct comprising the CaR polynucleotide is useful for
CC   developing transgenic animals expressing a mutated form of the calcium-
CC   sensing receptor. The CaR polypeptide can be used to produce antibodies
CC   to CaR, which can be used to detect the presence of CaR protein using
CC   immunoassays. Also described are methods and compositions which can be
CC   used to modulate the serum concentration of calcium in humans and animals
XX
SQ   Sequence 1059 AA;

  Query Match             34.7%;  Score 1700;  DB 4;  Length 1059;
  Best Local Similarity   37.6%;  Pred. No. 1e-146;
  Matches  349;  Conservative  182;  Mismatches  333;  Indels   64;  Gaps   16;

Qy         18 LAFLW--AELGSEAKEEKEEERTCRLLGKCVDAENHSLVIGGLFPIDSRTIPANESI-LE 74
              | | |  |  |   : :|: :                ::::||||||       :: :
Db         11 LLFTWNTAAYGPNQRAQKKGD----------------IILGGLFPIHFGVAAKDQDLKSR 54

Qy         75 PASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNITLGYQIFDTCFTISKSVEAVLVF 134
              | | :|  :||: |||::|||  |:|||   ::|||:||||:|||||  |:||::||  | |
Db         55 PESVECIRYNFRGFRWLQAMIFAIEEINNSPNLLPNMTLGYRIFDTCNTVSKALEATLSF 114

Qy        135 LTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSVPASRILGLYYLPQVGYTSTCVIL 189
              :   :    |   | | :   |:   :||| || :|   : :|||:|:||| | |:  :|
Db        115 VAQNKIDSLNLDEFCNCSEHIPSTIAVVGATGSGVSTAVANLLGLFYIPQVSYASSSRLL 174

Qy        190 SDKYQFPSYLRVIASDKIQSKAVVKRIQHFGWVWVGAIAADDDYGKYGVKTFKEKMESAN 249
              |:| || |:|| | :|: |: |:   |::| | ||| ||||||||: |:: |:|: |  :
Db        175 SNKNQFKSFLRTIPNDEHQATAMADIIEYFRWNWVGTIAADDDYGRPGIEKFREEAEERD 234

Qy        250 LCVAFSETIPKVYSNEKMQKAVKAVKTSTAKVIVLYTSDIDLSLFVLEMIHHNITDRTWI 309
              :|: ||| | :    |::|: |: :: |||:|||:::|  ||   : |::  ||| : |:
Db        235 ICIDFSELISQYSDEEEIQQVVEVIQNSTARVIVVFSSGPDLEPLIKEIVRRNITGKIWL 294

Qy        310 ATEAWITSALIAKPEYFPYFGGTIGFATPRSVIPGLKEFLYDVHPNKDPNDVLTIEFWQT 369
              |:||| :|:||| ||:|   | |||||     ||| :|||  ||| |  |:    |||:
Db        295 ASEAWASSSLIAMPEFFRVIGSTIGFALKAGQIPGFREFLQKVHPKKSANNGFAKEFWEE 354

Qy        370 AFNCTWPN------SSVPYNVDHRVNM-TGKEDRLYDMSDQLCTGEEKLEDLKNTYLDTS 422
              |||  |:      :|  ::  |   : |     :       |||:| :  ::  |:| :
Db        355 TFNCYLPSESKNSPASASFHKAHEEGLGAGNGTAAFRPP---CTGDENITSVETPYMDFT 411

Qy        423 QLRITKQCKQAVYAIAHGLDHLSRCQEGQGPFGSNQQCAYIPTFDFWQLMYYMKEIKFKS 482
              |||:     |||:||| |  :  |  |:| | :|  || |   : ||:: ::: : | |
Db        412 HLRISYNVYLAVYSIAHALQDIYTCTPGKGLF-TNGSCADIKKVEAWQVLKHLRHLNFTS 470

Qy        483 HEDKWVILDDNGDLKNGHYDVLNWHLD-DEGEISFVTVGRFNFRSTNFELVIPTNSTIFW 541
              :  : |  |: |||  |:| ::||||  ::| : |  || :|  :   | :    : | |
Db        471 NMGEQVDFDEFGDLV-GNYSIINWHLSPEDGSVVFEEVGHYNVYAKKGERLFINENKILW 529

Qy        542 NTESSRLPHSVCTDVCPPGTGRGFVQREPICCFDSIPCADGHVSRKPGERECEQCGEDYW 601
              :  |  :| | |:  | ||| :| :: || |||: : | ||  | :     |::| ||||
Db        530 SGFSKEVPFSNCSRDCLPGTRKGIIEGEPTCCFECVDCPDGEYSDETDASACDKCPEDYW 589
```

```
Qy        602 SNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVVLAVTAVYVIHRHTPLVNASDWQL 661
              ||   : |: |::|:|:: |  |  | : :| | |:   |  |:   |:||:| |:: :|
Db        590 SNENHTSCIPKQIEFLSWTEPFGIALTLFAVLGIFLTSFVLGVFTKFRNTPIVKATNREL 649

Qy        662 GFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALGFSLCLSCLLGKTSSLFLAYRISK 721
               :|:  ||:    ||: || :| ||:|   |    : | ||:||:| ||: : | :  :|
Db        650 SYLLLFSLLCCFSSSLFFIGEPQNWTCRLRQPAFGISFVLCISCILVKTNRVLLVFE-AK 708

Qy        722 SKTQLTSMHPLYRK--------IIVLISVLAEIGICTAYLILEPPMVYKNMESQNTKIIL 773
                |       |:||       ::| :    :| ||  :|   ||  |:| | ::  | :
Db        709 IPTS------LHRKWWGLNLQFLLVFLCTFVQIVICVIWLYTAPPSSYRNHELEDEIIFI 762

Qy        774 GCNEISIEFLYSMFGIDAFLALLCFLTTFVARQLPDNYYEGKCITFGMLVFFIIWMSFVP 833
               |:| |:  |  : |    || :||   | :|:||:|: | | ||| ||:|||:|:||:|
Db        763 TCHEGSLMALGFLIGYTCLLAAICFFFAFKSRKLPENFNEAKFITFSMLIFFIVWISFIP 822

Qy        834 VYLSTKGKFKMAVEIFAILASSHGLLGCIFAPKCLIILLRPERNTSEIVCGRVSTTDNCI 893
               | || |||  |||: ||||:| ||| |||  |  ||| :| ||| | |  | ||  :
Db        823 AYASTYGKFVSAVEVIAILAASFGLLACIFFNKVYIILFKPSRNTIEEV--RCSTAAHAF 880

Qy        894 QLTSAFV----------SSELNNTTVST 911
              :: :            |: |  :| ||
Db        881 KVAARATLRRSNVSRKRSNSLGGSTGST 908
```

RESULT 8
AAW54844
ID AAW54844 standard; protein; 1085 AA.
XX
AC AAW54844;
XX
DT 01-SEP-1998 (first entry)
XX
DE Bovine parathyroid calcium receptor 1 protein 5Kb fragment.
XX
KW Calcium ion concentration; parathyroid hormone; homeostasis; kidney;
KW calcium receptor; detection.
XX
OS Bos sp.
XX
PN US5763569-A.
XX
PD 09-JUN-1998.
XX
PF 07-JUN-1995; 95US-00484565.
XX
PR 23-AUG-1991; 91US-00749451.
PR 11-FEB-1992; 92US-00834044.
PR 21-AUG-1992; 92US-00934161.
PR 12-FEB-1993; 93US-00017127.
PR 23-FEB-1993; 93US-00009389.
PR 22-OCT-1993; 93US-00141248.
PR 19-AUG-1994; 94US-00292827.
PR 21-OCT-1994; 94WO-US012117.
PR 08-DEC-1994; 94US-00353784.
XX
PA (NPSP-) NPS PHARM INC.
PA (BGHM) BRIGHAM & WOMENS HOSPITAL.
XX
PI Hebert SC, Brown EM, Garrett JE;
XX
DR WPI; 1998-347412/30.
DR N-PSDB; AAV26962.
XX
PT Calcium receptor poly:peptide(s) - useful for drug screening or antibody
PT production.
XX
PS Claim 5; Fig 47; 174pp; English.
XX
CC The bovine parathyroid calcium receptor gene encodes a 1085 amino acid
CC protein. The tissue from which this receptor and receptors from human
CC parathyroid and rat kidney are derived, respond to changes, and control
CC changes, in calcium ion concentration, e.g. parathyroid hormone regulates
CC Ca2+ homeostasis in blood and extracellular fluid, and kidney function
CC alters through changes in Ca2+ levels in juxtaglomerular and proximal
CC tubule cells in the kidney. The purified receptors (produced
CC recombinantly) can be used to screen for compounds that modulate calcium
CC receptor activity, especially those that can be used to treat diseases
CC associated with the receptors in these tissues. They can also be used to
CC raise antibodies for use in detection assays
XX
SQ Sequence 1085 AA;

Query Match 34.6%; Score 1695.5; DB 2; Length 1085;
Best Local Similarity 39.3%; Pred. No. 2.8e-146;
Matches 350; Conservative 173; Mismatches 323; Indels 45; Gaps 15;

```
Qy         53 LVIGGLFPIDSRTIPANESI-LEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNI 111
              :::||||||        :: :   | | :|  :||: |||::|||  |:|||    :|||:
Db         33 IILGGLFPIHFGVAVKDQDLKSRPESVECIRYNFRGFRWLQAMIFAIEEINSSPALLPNM 92

Qy        112 TLGYQIFDTCFTISKSVEAVLVFLTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSV 166
              ||||:|||||  |:||::||  | |:    :     |   | | :   |:   :||| || :|
Db         93 TLGYRIFDTCNTVSKALEATLSFVAQNKIDSLNLDEFCNCSEHIPSTIAVVGATGSGIST 152

Qy        167 PASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHFGWVWVGA 226
                : :|||:|:|||  | |:  :||:|  ||  |:||  | :|:  |: |:   |::|  | |||
Db        153 AVANLLGLFYIPQVSYASSSRLLSNKNQFKSFLRTIPNDEHQATAMADIIEYFRWNWVGT 212

Qy        227 IAADDDYGKYGVKTFKEKMESANLCVAFSETIPKVYSNEKMQKAVKAVKTSTAKVIVLYT 286
              ||||||||: |:: |:|: |  ::|: |||  | :    ||:|: |: :: |||||||:::
Db        213 IAADDDYGRPGIEKFREEAEERDICIDFSELISQYSDEEKIQQVVEVIQNSTAKVIVVFS 272

Qy        287 SDIDLSLFVLEMIHHNITDRTWIATEAWITSALIAKPEYFPYFGGTIGFATPRSVIPGLK 346
              |  ||    : |:: |||  | |:|:||| :|:||| ||||    ||||||      ||| :
Db        273 SGPDLEPLIKEIVRRNITGRIWLASEAWASSSLIAMPEYFHVVGGTIGFGLKAGQIPGFR 332

Qy        347 EFLYDVHPNKDPNDVLTIEFWQTAFNC-TWPNSSVPYNVDHRVNMTGKEDRLYDMSDQ-- 403
              |||  ||| |  ::    |||:  |||     :  |  ||    : | |:    :|:
Db        333 EFLQKVHPRKSVHNGFAKEFWEETFNCHLQEGAKGPLPVD--TFLRGHEEGGARLSNSPT 390

Qy        404 ----LCTGEEKLEDLKNTYLDTSQLRITKQCKQAVYAIAHGLDHLSRCQEGQGPFGSNQQ 459
                  |||||  :  ::  |:| : |||:    |||:||| |  :  |  |:| | :|
Db        391 AFRPLCTGEENISSVETPYMDYTHLRISYNVYLAVYSIAHALQDIYTCIPGRGLF-TNGS 449

Qy        460 CAYIPTFDFWQLMYYMKEIKFKSHEDKWVILDDNGDLKNGHYDVLNWHLD-DEGEISFVT 518
              || |   : ||:: ::: : | |:  : |  |: |||  |:| ::||||  ::| | |
Db        450 CADIKKVEAWQVLKHLRHLNFTSNMGEQVTFDECGDLA-GNYSIINWHLSPEDGSIVFKE 508

Qy        519 VGRFNFRSTNFELVIPTNSTIFWNTESSRLPHSVCTDVCPPGTGRGFVQREPICCFDSIP 578
              || :|  :   | :   :  | |:  |  :| | |:  |  || :| :: || |||: :
Db        509 VGYYNVYAKKGERLFINDEKILWSGFSREVPFSNCSRDCLAGTRKGIIEGEPTCCFECVE 568

Qy        579 CADGHVSRKPGERECEQCGEDYWSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVV 638
              | ||  | :     |::| :|:|||   : |: ||:|:|:: |  |  | : :| | |:
Db        569 CPDGEYSDETDASACDKCPDDFWSNENHTSCIAKEIEFLSWTEPFGIALTLFAVLGIFLT 628

Qy        639 LAVTAVYVIHRHTPLVNASDWQLGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALG 698
                |  |::  |:||:| |:: :| :|:  ||:    ||: || :| :|:|    |    :
Db        629 AFVLGVFIKFRNTPIVKATNRELSYLLLFSLLCCFSSSLFFIGEPQDWTCRLRQPAFGIS 688

Qy        699 FSLCLSCLLGKTSSLFLAYRISKSKTQLTSMHPLYRK--------IIVLISVLAEIGICT 750
              | ||:||:| ||: : | :   ::|   || |   ||        ::| :    :| ||
Db        689 FVLCISCILVKTNRVLLVF---EAKIP-TSFH---RKWWGLNLQFLLVFLCTFMQIVICA 741

Qy        751 AYLILEPPMVYKNMESQNTKIILGCNEISIEFLYSMFGIDAFLALLCFLTTFVARQLPDN 810
               :|   ||  |:| | ::  | : |:| |:  |  : |     || :||    | :|:||:|
Db        742 IWLNTAPPSSYRNHELEDEIIFITCHEGSLMALGFLIGYTCLLAAICFFFAFKSRKLPEN 801

Qy        811 YYEGKCITFGMLVFFIIWMSFVPVYLSTKGKFKMAVEIFAILASSHGLLGCIFAPKCLII 870
              : | | ||| ||:|||:|:||:| | || |||  |||: ||||:| ||| |||  |  ||
Db        802 FNEAKFITFSMLIFFIVWISFIPAYASTYGKFVSAVEVIAILAASFGLLACIFFNKVYII 861

Qy        871 LLRPERNTSEIVCGRVSTTDNCIQLTSAFV----------SSELNNTTVST 911
              | :| ||| | |  | ||  :  :: :            || |  :| ||
```

```
Db        862 LFKPSRNTIEEV--RCSTAAHAFKVAARATLRRSNVSRQRSSSLGGSTGST 910


RESULT 9
AAW38272
ID   AAW38272 standard; protein; 1085 AA.
XX
AC   AAW38272;
XX
DT   08-MAY-1998  (first entry)
XX
DE   Bovine parathyroid cell calcium receptor 1 (BoPCaR 1).
XX
KW   Bovine parathyroid cell calcium receptor 1; BoPCaR 1;
KW   calcium homeostasis; hyperparathyroidism; osteoporosis.
XX
OS   Bos sp.
XX
PN   US5688938-A.
XX
PD   18-NOV-1997.
XX
PF   07-JUN-1995;   95US-00485588.
XX
PR   23-AUG-1991;   91US-00749451.
PR   11-FEB-1992;   92US-00834044.
PR   21-AUG-1992;   92US-00934161.
PR   12-FEB-1993;   93US-00017127.
PR   23-FEB-1993;   93US-00009389.
PR   22-OCT-1993;   93US-00141248.
PR   19-AUG-1994;   94US-00292827.
PR   21-OCT-1994;   94WO-US012117.
PR   08-DEC-1994;   94US-00353784.
XX
PA   (BGHM ) BRIGHAM & WOMENS HOSPITAL.
PA   (NPSP-) NPS PHARM INC.
XX
PI   Garrett JE,  Fuller FH,  Brown EM,  Hebert SC;
XX
DR   WPI; 1998-008040/01.
DR   N-PSDB; AAT95857.
XX
PT   DNA encoding calcium receptor polypeptide(s) - useful for therapeutic
PT   purposes, e.g. hyperparathyroidism and osteoporosis.
XX
PS   Claim 4; Col 107-116; 174pp; English.
XX
CC   The present sequence is bovine parathyroid cell calcium receptor 1
CC   (BoPCaR 1). The specification includes details of molecules that can
CC   modulate one or more inorganic ion receptor activities, and antibodies
CC   and antibody fragments targetted to inorganic ion receptor proteins. The
CC   proteins, nucleic acids and antibodies may be used to treat disorders by
CC   modulating one or more inorganic ion receptor activities, preferably
CC   disorders of calcium homeostasis, e.g. hyperparathyroidism and
CC   osteoporosis
XX
SQ   Sequence 1085 AA;

  Query Match             34.6%;  Score 1695.5;  DB 2;  Length 1085;
  Best Local Similarity   39.3%;  Pred. No. 2.8e-146;
  Matches  350;  Conservative  173;  Mismatches  323;  Indels   45;  Gaps   15;

Qy         53 LVIGGLFPIDSRTIPANESI-LEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNI 111
              :::||||||       :: :   | | :|  :||: |||::|||  |:|||    :|||:
Db         33 IILGGLFPIHFGVAVKDQDLKSRPESVECIRYNFRGFRWLQAMIFAIEEINSSPALLPNM 92

Qy        112 TLGYQIFDTCFTISKSVEAVLVFLTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSV 166
              ||||:||||| |:||::|| | |:   :    |   | | :   |:   :||| || :|
Db         93 TLGYRIFDTCNTVSKALEATLSFVAQNKIDSLNLDEFCNCSEHIPSTIAVVGATGSGIST 152

Qy        167 PASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHFGWVWVGA 226
                : :|||:|:||| | |:  :||:| || |:|| | :|: |: |:   |::| | |||
Db        153 AVANLLGLFYIPQVSYASSSRLLSNKNQFKSFLRTIPNDEHQATAMADIIEYFRWNWVGT 212

Qy        227 IAADDDYGKYGVKTFKEKMESANLCVAFSETIPKVYSNEKMQKAVKAVKTSTAKVIVLYT 286
              ||||||||: |:: |:|: |  ::|: ||| | :    ||:|: |: :: |||||||:::
Db        213 IAADDDYGRPGIEKFREEAEERDICIDFSELISQYSDEEKIQQVVEVIQNSTAKVIVVFS 272

Qy        287 SDIDLSLFVLEMIHHNITDRTWIATEAWITSALIAKPEYFPYFGGTIGFATPRSVIPGLK 346
              |  ||   : |::  ||| | |:|:||| :|:||| ||||   ||||||      ||| :
Db        273 SGPDLEPLIKEIVRRNITGRIWLASEAWASSSLIAMPEYFHVVGGTIGFGLKAGQIPGFR 332

Qy        347 EFLYDVHPNKDPNDVLTIEFWQTAFNC-TWPNSSVPYNVDHRVNMTGKEDRLYDMSDQ-- 403
              |||  ||| |  ::    |||:  |||     :  |  ||    : | |:    :|:
Db        333 EFLQKVHPRKSVHNGFAKEFWEETFNCHLQEGAKGPLPVD--TFLRGHEEGGARLSNSPT 390

Qy        404 ----LCTGEEKLEDLKNTYLDTSQLRITKQCKQAVYAIAHGLDHLSRCQEGQGPFGSNQQ 459
                  |||||| :  ::  |:| : |||:     |||:||| |  :  |  |:| | :|
Db        391 AFRPLCTGEENISSVETPYMDYTHLRISYNVYLAVYSIAHALQDIYTCIPGRGLF-TNGS 449

Qy        460 CAYIPTFDFWQLMYYMKEIKFKSHEDKWVILDDNGDLKNGHYDVLNWHLD-DEGEISFVT 518
              || |   : ||:: ::: : | |:  : |  |: |||  |:| ::||||  ::| | |
Db        450 CADIKKVEAWQVLKHLRHLNFTSNMGEQVTFDECGDLA-GNYSIINWHLSPEDGSIVFKE 508

Qy        519 VGRFNFRSTNFELVIPTNSTIFWNTESSRLPHSVCTDVCPPGTGRGFVQREPICCFDSIP 578
              || :|  :   | :  :  | |:  |  :| | |:  |  || :| :: || |||: :
Db        509 VGYYNVYAKKGERLFINDEKILWSGFSREVPFSNCSRDCLAGTRKGIIEGEPTCCFECVE 568

Qy        579 CADGHVSRKPGERECEQCGEDYWSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVV 638
              | ||  | :      |::| :|:|||   : |: ||:|:|:: |  |  | : :| | |:
Db        569 CPDGEYSDETDASACDKCPDDFWSNENHTSCIAKEIEFLSWTEPFGIALTLFAVLGIFLT 628

Qy        639 LAVTAVYVIHRHTPLVNASDWQLGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALG 698
                |  |::  |:||:| |:: :| :|:  ||:     ||: || :| :|:|    |   :
Db        629 AFVLGVFIKFRNTPIVKATNRELSYLLLFSLLCCFSSSLFFIGEPQDWTCRLRQPAFGIS 688

Qy        699 FSLCLSCLLGKTSSLFLAYRISKSKTQLTSMHPLYRK--------IIVLISVLAEIGICT 750
              | ||:||:| ||: : | :   ::|   || |   ||         ::| :   :| ||
Db        689 FVLCISCILVKTNRVLLVF---EAKIP-TSFH---RKWWGLNLQFLLVFLCTFMQIVICA 741

Qy        751 AYLILEPPMVYKNMESQNTKIILGCNEISIEFLYSMFGIDAFLALLCFLTTFVARQLPDN 810
               :|   ||  |:| | ::  | : |:| |:  |  : |     || :||   | :|:||:|
Db        742 IWLNTAPPSSYRNHELEDEIIFITCHEGSLMALGFLIGYTCLLAAICFFFAFKSRKLPEN 801

Qy        811 YYEGKCITFGMLVFFIIWMSFVPVYLSTKGKFKMAVEIFAILASSHGLLGCIFAPKCLII 870
              : | | ||| ||:|||:|:||:| | || |||   |||: ||||:| ||| |||   |  ||
Db        802 FNEAKFITFSMLIFFIVWISFIPAYASTYGKFVSAVEVIAILAASFGLLACIFFNKVYII 861

Qy        871 LLRPERNTSEIVCGRVSTTDNCIQLTSAFV----------SSELNNTTVST 911
              | :| ||| | |  | ||  :  :: :              || |  :| ||
Db        862 LFKPSRNTIEEV--RCSTAAHAFKVAARATLRRSNVSRQRSSSLGGSTGST 910


RESULT 10
AAY41778
ID   AAY41778 standard; protein; 1085 AA.
XX
AC   AAY41778;
XX
DT   08-DEC-1999  (first entry)
XX
DE   Bovine parathyroid calcium receptor 1 protein sequence.
XX
KW   Parathyroid; calcium receptor; inorganic ion receptor; modulator;
KW   receptor expression; detection.
XX
OS   Bos taurus.
XX
PN   US5962314-A.
XX
PD   05-OCT-1999.
XX
PF   03-OCT-1997;   97US-00943986.
XX
PR   23-FEB-1993;   93US-00009389.
PR   22-OCT-1993;   93US-00141248.
```

PR 19-AUG-1994; 94US-00292827.
PR 21-OCT-1994; 94WO-US012117.
PR 08-DEC-1994; 94US-00353784.
PR 07-JUN-1995; 95US-00484565.
XX
PA (NPSP-) NPS PHARM INC.
PA (BGHM) BRIGHAM & WOMENS HOSPITAL.
XX
PI Brown EM, Hebert SC, Garrett JE;
XX
DR WPI; 1999-571274/48.
DR N-PSDB; AAZ25053.
XX
PT Nucleic acids encoding protein calcium receptors useful for identifying
PT modulators of receptor expression and activity and for the production of
PT antigens specific for calcium receptors.
XX
PS Claim 13; Fig 47; 174pp; English.
XX
CC The present sequence represents bovine parathyroid calcium receptor 1
CC (BoPCaR 1). Calcium receptor polynucleotides may be used: (i) for
CC producing receptor proteins (or fragments) useful for determining
CC structure and activity relationships, for assaying molecular activity on
CC the receptor (i.e. identifying modulators of receptor function) and for
CC producing antibodies specific for the receptor; (ii) for sequencing the
CC normal form of the nucleic acids (the derived sequence may be compared
CC with other receptors to identify conserved sequences, mutations and
CC variations that may influence calcium receptor activity and to determine
CC target sites for antisense molecules ribozymes, hybridization probes and
CC polymerase chain reaction (PCR) amplification primers); (iii) as
CC hybridization probes to detect the presence of similar sequences in
CC samples; and (iv) as PCR primers to generate particular nucleic acid
CC sequence regions; (e.g. to generate regions to be probes by hybridization
CC detection probes)
XX
SQ Sequence 1085 AA;

Query Match 34.6%; Score 1695.5; DB 2; Length 1085;
Best Local Similarity 39.3%; Pred. No. 2.8e-146;
Matches 350; Conservative 173; Mismatches 323; Indels 45; Gaps 15;

```
Qy         53 LVIGGLFPIDSRTIPANESI-LEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNI 111
              :::||||||       :: :   | | :|  :||: |||::|||  |:|||    :|||:
Db         33 IILGGLFPIHFGVAVKDQDLKSRPESVECIRYNFRGFRWLQAMIFAIEEINSSPALLPNM 92

Qy        112 TLGYQIFDTCFTISKSVEAVLVFLTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSV 166
              ||||:||||| |:||::|| | |:   :    |  | | :   |:   :||| || :|
Db         93 TLGYRIFDTCNTVSKALEATLSFVAQNKIDSLNLDEFCNCSEHIPSTIAVVGATGSGIST 152

Qy        167 PASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHFGWVWVGA 226
               : :|||:|:||| | |:  :||:| || |:|| | :|: |: |:   |::| | |||
Db        153 AVANLLGLFYIPQVSYASSSRLLSNKNQFKSFLRTIPNDEHQATAMADIIEYFRWNWVGT 212

Qy        227 IAADDDYGKYGVKTFKEKMESANLCVAFSETIPKVYSNEKMQKAVKAVKTSTAKVIVLYT 286
              ||||||||: |:: |:|: |  ::|: ||| | :    ||:|: |: :: |||||||:::
Db        213 IAADDDYGRPGIEKFREEAEERDICIDFSELISQYSDEEKIQQVVEVIQNSTAKVIVVFS 272

Qy        287 SDIDLSLFVLEMIHHNITDRTWIATEAWITSALIAKPEYFPYFGGTIGFATPRSVIPGLK 346
              |  ||   : |::  ||| | |:|:||| :|:||| |||   |||||      ||| :
Db        273 SGPDLEPLIKEIVRRNITGRIWLASEAWASSSLIAMPEYFHVVGGTIGFGLKAGQIPGFR 332

Qy        347 EFLYDVHPNKDPNDVLTIEFWQTAFNC-TWPNSSVPYNVDHRVNMTGKEDRLYDMSDQ-- 403
              |||  ||| |  ::    |||:  |||     :  |  ||    : | |:    :|:
Db        333 EFLQKVHPRKSVHNGFAKEFWEETFNCHLQEGAKGPLPVD--TFLRGHEEGGARLSNSPT 390

Qy        404 ----LCTGEEKLEDLKNTYLDTSQLRITKQCKQAVYAIAHGLDHLSRCQEGQGPFGSNQQ 459
                  |||||| :  ::  |:| : |||:      |||:||| |  :  |  |:| | :|
Db        391 AFRPLCTGEENISSVETPYMDYTHLRISYNVYLAVYSIAHALQDIYTCIPGRGLF-TNGS 449

Qy        460 CAYIPTFDFWQLMYYMKEIKFKSHEDKWVILDDNGDLKNGHYDVLNWHLD-DEGEISFVT 518
              || |   : ||:: ::: : | |:  : |  |: |||  |:| ::||||  ::| | |
Db        450 CADIKKVEAWQVLKHLRHLNFTSNMGEQVTFDECGDLA-GNYSIINWHLSPEDGSIVFKE 508

Qy        519 VGRFNFRSTNFELVIPTNSTIFWNTESSRLPHSVCTDVCPPGTGRGFVQREPICCFDSIP 578
              || :|  :   | :   :  | |:  |  :| | |:  |  || :| :: || |||: :
Db        509 VGYYNVYAKKGERLFINDEKILWSGFSREVPFSNCSRDCLAGTRKGIIEGEPTCCFECVE 568

Qy        579 CADGHVSRKPGERECEQCGEDYWSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVV 638
              | ||  | :      |::| :|:|||   :.|: ||:|:|:: |  |  | : :| | |:
Db        569 CPDGEYSDETDASACDKCPDDFWSNENHTSCIAKEIEFLSWTEPFGIALTLFAVLGIFLT 628

Qy        639 LAVTAVYVIHRHTPLVNASDWQLGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALG 698
                |  |::  |:||:|  |:: :| :|:  ||:    ||: || :| :|:|   |    :
Db        629 AFVLGVFIKFRNTPIVKATNRELSYLLLFSLLCCFSSSLFFIGEPQDWTCRLRQPAFGIS 688

Qy        699 FSLCLSCLLGKTSSLFLAYRISKSKTQLTSMHPLYRK--------IIVLISVLAEIGICT 750
              | ||:||:| ||: : | :   ::|   || |   ||         ::| :    :| ||
Db        689 FVLCISCILVKTNRVLLVF---EAKIP-TSFH---RKWWGLNLQFLLVFLCTFMQIVICA 741

Qy        751 AYLILEPPMVYKNMESQNTKIILGCNEISIEFLYSMFGIDAFLALLCFLTTFVARQLPDN 810
               :|   ||  |:| | ::  | : |:| |:  |  : |    || :||   | :|:||:|
Db        742 IWLNTAPPSSYRNHELEDEIIFITCHEGSLMALGFLIGYTCLLAAICFFFAFKSRKLPEN 801

Qy        811 YYEGKCITFGMLVFFIIWMSFVPVYLSTKGKFKMAVEIFAILASSHGLLGCIFAPKCLII 870
              : | | ||| ||:|||:|:||:| | || |||  |||: ||||:| ||| |||   |  ||
Db        802 FNEAKFITFSMLIFFIVWISFIPAYASTYGKFVSAVEVIAILAASFGLLACIFFNKVYII 861

Qy        871 LLRPERNTSEIVCGRVSTTDNCIQLTSAFV----------SSELNNTTVST 911
              | :| ||| | |  | ||  :  :: :             || |  :| ||
Db        862 LFKPSRNTIEEV--RCSTAAHAFKVAARATLRRSNVSRQRSSSLGGSTGST 910
```

RESULT 11
AAW89563
ID AAW89563 standard; protein; 1085 AA.
XX
AC AAW89563;
XX
DT 19-MAR-1999 (first entry)
XX
DE Bovine parathyroid calcium receptor BoPCaR 1.
XX
KW Parathyroid calcium receptor; inorganic ion receptor; osteoporosis;
KW calcium homeostasis; hyperparathyroidism; seizure; stroke; epilepsy;
KW spinal cord injury; hypoxia-induced nerve cell damage; cardiac arrest;
KW neonatal distress; neurodegenerative disease; Alzheimer's disease;
KW Huntington's disease; Parkinson's disease; dementia; muscle tension;
KW depression; anxiety.
XX
OS Bos sp.
XX
PN US5858684-A.
XX
PD 12-JAN-1999.
XX
PF 07-JUN-1995; 95US-00480751.
XX
PR 23-AUG-1991; 91US-00749451.
PR 11-FEB-1992; 92US-00834044.
PR 21-AUG-1992; 92US-00934161.
PR 12-FEB-1993; 93US-00017127.
PR 23-FEB-1993; 93US-00009389.
PR 22-OCT-1993; 93US-00141248.
PR 19-AUG-1994; 94US-00292827.
PR 21-OCT-1994; 94WO-US012117.
PR 08-DEC-1994; 94US-00353784.
XX
PA (NPSP-) NPS PHARM INC.
PA (BGHM) BRIGHAM & WOMENS HOSPITAL.
XX
PI Del Mar EG, Balandrin MF, Van Wagenen BC, Nemeth EF, Brown EM;
PI Garrett JE, Hebert SC;
XX
DR WPI; 1999-119871/10.
DR N-PSDB; AAV82483.
XX

```
PT   Screening for calcium receptor-active compounds - by recombinant
PT   expression of nucleic acid encoding calcium receptor and determining the
PT   effect of compounds on calcium receptor activity.
XX
PS   Claim 1; Fig 47; 176pp; English.
XX
CC   A method has been developed of screening for a compound able to affect
CC   one or more activities of a calcium receptor (CR) comprises: (A)
CC   contacting a recombinant cell with a test compound, where the recombinant
CC   cell comprises a recombinant nucleic acid expressing the CR, provided
CC   that the cell does not have functional CR expression from endogenous
CC   nucleic acid; (B) determining the ability of the test compound to affect
CC   one or more activities of the calcium receptor; and (C) comparing the
CC   ability with the ability of the test compound to affect the one or more
CC   CR activities in a cell not comprising the recombinant nucleic acid. The
CC   present sequence represents bovine parathyroid CR, designated a BoPCaR 1.
CC   The nucleic acid sequence of BoPCaR 1 can be used as part of the
CC   recombinant nucleic acid in the method described above. The compounds
CC   identified can be used to treat diseases or disorders characterised by
CC   abnormal calcium homeostasis, e.g. hyperparathyroidism, osteoporosis and
CC   other bone and mineral-related disorders. They can also be used for the
CC   treatment of diseases and disorders associated with disrupted Ca2+
CC   responses, e.g. seizures, stroke, spinal cord injury, hypoxia-induced
CC   nerve cell damage such as in cardiac arrest or neonatal distress,
CC   epilepsy, neurodegenerative diseases such as Alzheimer's disease,
CC   Huntington's disease and Parkinson's disease, dementia, muscle tension,
CC   depression, and anxiety
XX
SQ   Sequence 1085 AA;

  Query Match             34.6%;  Score 1695.5;  DB 2;  Length 1085;
  Best Local Similarity   39.3%;  Pred. No. 2.8e-146;
  Matches  350;  Conservative  173;  Mismatches  323;  Indels   45;  Gaps   15;

Qy         53 LVIGGLFPIDSRTIPANESI-LEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNI 111
              :::||||||       :: :   | | :|  :||: |||::|||  |:|||    :|||:
Db         33 IILGGLFPIHFGVAVKDQDLKSRPESVECIRYNFRGFRWLQAMIFAIEEINSSPALLPNM 92

Qy        112 TLGYQIFDTCFTISKSVEAVLVFLTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSV 166
              ||||:|||||  |:||::||  | |:   :     |   | | :   |:   :||| || :|
Db         93 TLGYRIFDTCNTVSKALEATLSFVAQNKIDSLNLDEFCNCSEHIPSTIAVVGATGSGIST 152

Qy        167 PASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHFGWVWVGA 226
                : :|||:|:||| | |:  :||:| || |:|| | :|: |: |:   |::| | |||
Db        153 AVANLLGLFYIPQVSYASSSRLLSNKNQFKSFLRTIPNDEHQATAMADIIEYFRWNWVGT 212

Qy        227 IAADDDYGKYGVKTFKEKMESANLCVAFSETIPKVYSNEKMQKAVKAVKTSTAKVIVLYT 286
              ||||||||: |:: |:|: |  ::|: ||| | :    ||:|: |: :: ||||||||:::
Db        213 IAADDDYGRPGIEKFREEAEERDICIDFSELISQYSDEEKIQQVVEVIQNSTAKVIVVFS 272

Qy        287 SDIDLSLFVLEMIHHNITDRTWIATEAWITSALIAKPEYFPYFGGTIGFATPRSVIPGLK 346
              |  ||   : |::  ||| | |:|:||| :|:||| ||||   ||||||      ||| :
Db        273 SGPDLEPLIKEIVRRNITGRIWLASEAWASSSLIAMPEYFHVVGGTIGFGLKAGQIPGFR 332

Qy        347 EFLYDVHPNKDPNDVLTIEFWQTAFNC-TWPNSSVPYNVDHRVNMTGKEDRLYDMSDQ-- 403
              |||  ||| |  ::    |||:  |||     :  |  ||    : | |:    :|:
Db        333 EFLQKVHPRKSVHNGFAKEFWEETFNCHLQEGAKGPLPVD--TFLRGHEEGGARLSNSPT 390

Qy        404 ----LCTGEEKLEDLKNTYLDTSQLRITKQCKQAVYAIAHGLDHLSRCQEGQGPFGSNQQ 459
                  |||||  :  ::  |:| : |||:     |||:||| |  :  |  |:| | :|
Db        391 AFRPLCTGEENISSVETPYMDYTHLRISYNVYLAVYSIAHALQDIYTCIPGRGLF-TNGS 449

Qy        460 CAYIPTFDFWQLMYYMKEIKFKSHEDKWVILDDNGDLKNGHYDVLNWHLD-DEGEISFVT 518
              || |   : ||:: ::: : | |:  : |  |: |||  |:| ::|||  ::| | |
Db        450 CADIKKVEAWQVLKHLRHLNFTSNMGEQVTFDECGDLA-GNYSIINWHLSPEDGSIVFKE 508

Qy        519 VGRFNFRSTNFELVIPTNSTIFWNTESSRLPHSVCTDVCPPGTGRGFVQREPICCFDSIP 578
              || :|  :   | :   :  | |:  |  :| | |:  |  || :| :: || |||: :
Db        509 VGYYNVYAKKGERLFINDEKILWSGFSREVPFSNCSRDCLAGTRKGIIEGEPTCCFECVE 568

Qy        579 CADGHVSRKPGERECEQCGEDYWSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVV 638
              | ||  | :     |::| :|:|||   : |: ||:|:|:: |  |  | : :|.| |:
Db        569 CPDGEYSDETDASACDKCPDDFWSNENHTSCIAKEIEFLSWTEPFGIALTLFAVLGIFLT 628

Qy        639 LAVTAVYVIHRHTPLVNASDWQLGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALG 698
                |  |::  |:||:| |:: :| :|:  ||:    ||: || :| :|:|   |    :
Db        629 AFVLGVFIKFRNTPIVKATNRELSYLLLFSLLCCFSSSLFFIGEPQDWTCRLRQPAFGIS 688

Qy        699 FSLCLSCLLGKTSSLFLAYRISKSKTQLTSMHPLYRK--------IIVLISVLAEIGICT 750
              | ||:||:| ||: : | :   ::|   || |   ||        ::| :    :| ||
Db        689 FVLCISCILVKTNRVLLVF---EAKIP-TSFH---RKWWGLNLQFLLVFLCTFMQIVICA 741

Qy        751 AYLILEPPMVYKNMESQNTKIILGCNEISIEFLYSMFGIDAFLALLCFLTTFVARQLPDN 810
                :|   ||  |:| | ::  | : |:| |:  |  : |    || :||   | :|:||:|
Db        742 IWLNTAPPSSYRNHELEDEIIFITCHEGSLMALGFLIGYTCLLAAICFFFAFKSRKLPEN 801

Qy        811 YYEGKCITFGMLVFFIIWMSFVPVYLSTKGKFKMAVEIFAILASSHGLLGCIFAPKCLII 870
              : | | ||| ||:|||:|:||:| | || |||  |||: ||||:| ||| |||  |  ||
Db        802 FNEAKFITFSMLIFFIVWISFIPAYASTYGKFVSAVEVIAILAASFGLLACIFFNKVYII 861

Qy        871 LLRPERNTSEIVCGRVSTTDNCIQLTSAFV----------SSELNNTTVST 911
              | :| ||| | |  | ||  :  :: :              || |  :| ||
Db        862 LFKPSRNTIEEV--RCSTAAHAFKVAARATLRRSNVSRQRSSSLGGSTGST 910


RESULT 12
AAY51825
ID   AAY51825 standard; protein; 1085 AA.
XX
AC   AAY51825;
XX
DT   09-JUN-2000  (first entry)
XX
DE   Bovine calcium receptor BoPCaR1 protein.
XX
KW   Calcium receptor; treatment; calcimimetic; calcilytic; osteopathic;
KW   cerebroprotective; cytostatic; neuroprotective; dermatological;
KW   tranquilizer; vulnerary; antiulcer; immunosuppressive; hypotensive;
KW   cardiant; parathyroid hormone; osteoporosis; calcitonin secretion;
KW   hyperparathyroidism; Paget's disease; bovine.
XX
OS   Bos taurus.
XX
PN   US6031003-A.
XX
PD   29-FEB-2000.
XX
PF   07-JUN-1995;   95US-00484719.
XX
PR   23-AUG-1991;   91US-00749451.
PR   11-FEB-1992;   92US-00834044.
PR   21-AUG-1992;   92US-00934161.
PR   12-FEB-1993;   93US-00017127.
PR   23-FEB-1993;   93US-00009389.
PR   22-OCT-1993;   93US-00141248.
PR   19-AUG-1994;   94US-00292827.
PR   21-OCT-1994;   94WO-US012117.
PR   08-DEC-1994;   94US-00353784.
XX
PA   (NPSP-) NPS PHARM INC.
PA   (BGHM ) BRIGHAM & WOMENS HOSPITAL.
XX
PI   Balandrin MF,  Delmar EG,  Moe ST,  Nemeth EF,  Van Wagenen BC;
XX
DR   WPI; 2000-301969/26.
DR   N-PSDB; AAZ89296.
XX
PT   Treating disorders or diseases in a patient by modulating inorganic ion
PT   receptor activities especially calcium receptor for hyperparathyroidism,
PT   by administering a calcimimetic or calcilytic compound.
XX
PS   Example 25; Col 139-146; 194pp; English.
XX
CC   This invention describes a novel method of treating disorders by
CC   modulating calcium receptor activity in vitro by administering a
CC   calcimimetic, or a calcilytic compound. The products of the invention
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CC   have osteopathic, cerebroprotective, cytostatic, neuroprotective,
CC   dermatological, tranquilizer, vulnerary, antiulcer, immunosuppressive,
CC   hypotensive and cardiant activity. The method is suitable for reducing
CC   parathyroid hormone level in a patient to that of a normal individual,
CC   treating a patient having osteoporosis, to inhibit bone resorption, and
CC   to stimulate calcitonin secretion in vitro or in vivo. The level of
CC   parathyroid hormone is reduced to cause a decrease in plasma Ca2+. The
CC   method is useful in treating disorders in humans such as
CC   hyperparathyroidism, Paget's disease and osteoporosis. Also for treatment
CC   or prevention, based on the affected cells, of other disorders and
CC   conditions like seizures, stroke, head trauma, spinal cord injury,
CC   hypoxia-induced nerve cell damage such as in cardiac arrest or neonatal
CC   distress, epilepsy, Alzheimer's disease, Huntington's disease,
CC   Parkinson's disease, dementia, muscle tension, depression, anxiety, panic
CC   disorder, OCD (not defined), post-traumatic stress disorder,
CC   schizophrenia, neuroleptic malignant syndrome and Tourette's syndrome,
CC   diseases involving excess water reabsorption by the kidney such as
CC   syndrome of inappropriate ADH secretion (SIADH), cirrhosis, congestive
CC   heart failure and nephrosis, hypertension, preventing and/or decreasing
CC   renal toxicity from cationic antibiotics (e.g. aminoglycoside
CC   antibiotics), gut motility disorders such as diarrhoea and spastic colon,
CC   GI (gastrointestinal) ulcer diseases, GI diseases with excessive calcium
CC   absorption such as sarcoidosis and autoimmune diseases and organ
CC   transplant rejection. This sequence represents the bovine calcium
CC   receptor BoPCaR1 which is described in the method of the invention
XX
SQ   Sequence 1085 AA;

  Query Match             34.6%;  Score 1695.5;  DB 3;  Length 1085;
  Best Local Similarity   39.3%;  Pred. No. 2.8e-146;
  Matches  350;  Conservative  173;  Mismatches  323;  Indels   45;  Gaps   15;

Qy         53 LVIGGLFPIDSRTIPANESI-LEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNI 111
              :::||||||       :: :   | | :|  :||: |||::|||   |:|||    :|||:
Db         33 IILGGLFPIHFGVAVKDQDLKSRPESVECIRYNFRGFRWLQAMIFAIEEINSSPALLPNM 92

Qy        112 TLGYQIFDTCFTISKSVEAVLVFLTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSV 166
              ||||:|||||  |:||::|| | |:    :    |   | | :    |:   :||| || :|
Db         93 TLGYRIFDTCNTVSKALEATLSFVAQNKIDSLNLDEFCNCSEHIPSTIAVVGATGSGIST 152

Qy        167 PASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHFGWVWVGA 226
                : :|||:|:||| | |:  :||:| || |:|| | :|: |: |:   |::| | |||
Db        153 AVANLLGLFYIPQVSYASSSRLLSNKNQFKSFLRTIPNDEHQATAMADIIEYFRWNWVGT 212

Qy        227 IAADDDYGKYGVKTFKEKMESANLCVAFSETIPKVYSNEKMQKAVKAVKTSTAKVIVLYT 286
              ||||||||: |:: |:|: |  ::|: ||| | :    ||:|: |: :: |||||||:::
Db        213 IAADDDYGRPGIEKFREEAEERDICIDFSELISQYSDEEKIQQVVEVIQNSTAKVIVVFS 272

Qy        287 SDIDLSLFVLEMIHHNITDRTWIATEAWITSALIAKPEYFPYFGGTIGFATPRSVIPGLK 346
              |  ||   : |::  ||| | |:|:||| :|:||| ||||   ||||||      ||| :
Db        273 SGPDLEPLIKEIVRRNITGRIWLASEAWASSSLIAMPEYFHVVGGTIGFGLKAGQIPGFR 332

Qy        347 EFLYDVHPNKDPNDVLTIEFWQTAFNC-TWPNSSVPYNVDHRVNMTGKEDRLYDMSDQ-- 403
              |||  ||| |  ::   |||:  |||    :  |  ||    : | |:    :|:
Db        333 EFLQKVHPRKSVHNGFAKEFWEETFNCHLQEGAKGPLPVD--TFLRGHEEGGARLSNSPT 390

Qy        404 ----LCTGEEKLEDLKNTYLDTSQLRITKQCKQAVYAIAHGLDHLSRCQEGQGPFGSNQQ 459
                  |||||| :  ::  |:| : |||:     |||:||| |  :  |  |:| | :|
Db        391 AFRPLCTGEENISSVETPYMDYTHLRISYNVYLAVYSIAHALQDIYTCIPGRGLF-TNGS 449

Qy        460 CAYIPTFDFWQLMYYMKEIKFKSHEDKWVILDDNGDLKNGHYDVLNWHLD-DEGEISFVT 518
              || |   : ||:: ::: : | |:  : |  |: |||  |:| ::|||| ::| | |
Db        450 CADIKKVEAWQVLKHLRHLNFTSNMGEQVTFDECGDLA-GNYSIINWHLSPEDGSIVFKE 508

Qy        519 VGRFNFRSTNFELVIPTNSTIFWNTESSRLPHSVCTDVCPPGTGRGFVQREPICCFDSIP 578
              || :|  :   | :   :  | |:  |  :| | |:  |  || :| :: || |||: :
Db        509 VGYYNVYAKKGERLFINDEKILWSGFSREVPFSNCSRDCLAGTRKGIIEGEPTCCFECVE 568

Qy        579 CADGHVSRKPGERECEQCGEDYWSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVV 638
              | ||  | :      |::| :|:|||   : |: ||:|:|:: |  |  | : :| | |:
Db        569 CPDGEYSDETDASACDKCPDDFWSNENHTSCIAKEIEFLSWTEPFGIALTLFAVLGIFLT 628

Qy        639 LAVTAVYVIHRHTPLVNASDWQLGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALG 698
                                                                        
Db        629 AFVLGVFIKFRNTPIVKATNRELSYLLLFSLLCCFSSSLFFIGEPQDWTCRLRQPAFGIS 688

Qy        699 FSLCLSCLLGKTSSLFLAYRISKSKTQLTSMHPLYRK--------IIVLISVLAEIGICT 750
              | ||:||:| ||: : | :   ::|   || |   ||         ::| :    :| ||
Db        689 FVLCISCILVKTNRVLLVF---EAKIP-TSFH---RKWWGLNLQFLLVFLCTFMQIVICA 741

Qy        751 AYLILEPPMVYKNMESQNTKIILGCNEISIEFLYSMFGIDAFLALLCFLTTFVARQLPDN 810
               :|   ||  |:| | ::  | : |:| |:  |  : |     || :||   | :|:||:|
Db        742 IWLNTAPPSSYRNHELEDEIIFITCHEGSLMALGFLIGYTCLLAAICFFFAFKSRKLPEN 801

Qy        811 YYEGKCITFGMLVFFIIWMSFVPVYLSTKGKFKMAVEIFAILASSHGLLGCIFAPKCLII 870
              : | | ||| ||:|||:|:||:| | || |||  |||: ||||:| ||| |||   |  ||
Db        802 FNEAKFITFSMLIFFIVWISFIPAYASTYGKFVSAVEVIAILAASFGLLACIFFNKVYII 861

Qy        871 LLRPERNTSEIVCGRVSTTDNCIQLTSAFV----------SSELNNTTVST 911
              | :| ||| | |  | ||  :  :: :              || |  :| ||
Db        862 LFKPSRNTIEEV--RCSTAAHAFKVAARATLRRSNVSRQRSSSLGGSTGST 910


RESULT 13
AAB47820
ID   AAB47820 standard; protein; 1085 AA.
XX
AC   AAB47820;
XX
DT   07-AUG-2003  (revised)
DT   25-MAR-2002  (first entry)
XX
DE   BoPCaR1.
XX
KW   Calcium receptor; bovine; human; parathyroid; calcium receptor; thyroid;
KW   C-cell; inorganic ion receptor; homeostasis; sarcoidosis;
KW   hyperparathyroidism; osteoporosis; central nervous system; seizure;
KW   stroke; head trauma; spinal cord injury; organ transplant rejection;
KW   hypoxia-induced nerve cell damage; cardiac arrest; neonatal distress;
KW   epilepsy; neurodegenerative disease; Alzheimer's disease; cirrhosis;
KW   Huntington's disease; Parkinson's disease; dementia; depression; anxiety;
KW   panic disorder; obsessive-compulsive disorder; spastic colon;
KW   post-traumatic stress disorder; schizophrenia; diarrhoea; kidney;
KW   neuroleptic malignant syndrome; Tourette's syndrome; gut motility;
KW   inappropriate ADH secretion; SIADH; gastrointestinal ulcer disease;
KW   congestive heart failure; nephrosis; hypertension;
KW   aminoglycoside antibiotic.
XX
OS   Bos taurus.
XX
PN   US6313146-B1.
XX
PD   06-NOV-2001.
XX
PF   07-JUN-1995;   95US-00484159.
XX
PR   23-AUG-1991;   91US-00749451.
PR   11-FEB-1992;   92US-00834044.
PR   21-AUG-1992;   92US-00934161.
PR   12-FEB-1993;   93US-00017127.
PR   23-FEB-1993;   93US-00009389.
PR   22-OCT-1993;   93US-00141248.
PR   19-AUG-1994;   94US-00292827.
PR   21-OCT-1994;   94WO-US012117.
PR   08-DEC-1994;   94US-00353784.
XX
PA   (NPSP-) NPS PHARM INC.
XX
PI   Van Wagenen BC,  Balandrin MF,  Delmar EG,  Nemeth EF;
XX
DR   WPI; 2002-081872/11.
DR   N-PSDB; AAI72120.
XX
PT   Novel inorganic ion receptor-modulating compounds, useful for treating
PT   e.g. hyperparathyroidism, osteoporosis, stroke, epilepsy, Alzheimer's
PT   disease, dementia, depression, anxiety, hypertension, cirrhosis and
```

```
PT   spastic colon.
XX
PS   Example 25; Fig 47; 227pp; English.
XX
CC   The sequences given in AAB47820-23 show various calcium receptor
CC   proteins. This sequence is bovine parathyroid calcium receptor. The
CC   calcium receptor proteins are used, in conjunction with the compounds of
CC   the invention, for structure determination, to assay a molecules activity
CC   on a receptor and to obtain antibodies to that receptor. The compounds of
CC   the invention, which modulate inorganic ion receptors are useful for
CC   treating and diagnosing diseases or disorders which can be treated by
CC   modulating inorganic ion receptor activity. This is preferably a disease
CC   or disorder characterized by abnormal inorganic ion homeostasis,
CC   preferably abnormal calcium homeostasis (hyperparathyroidism,
CC   osteoporosis and other bone and mineral-related disorders), an abnormal
CC   level of a messenger whose production or secretion is affected by
CC   inorganic ion receptor activity, and an abnormal level or activity of a
CC   messenger whose function is affected by inorganic ion receptor activity.
CC   These compounds are also useful for treating and diagnosing diseases or
CC   disorders of the central nervous system such as seizures, stroke, head
CC   trauma, spinal cord injury, hypoxia-induced nerve cell damage such as in
CC   cardiac arrest or neonatal distress, epilepsy, neurodegenerative diseases
CC   such as Alzheimer's disease, Huntington's disease and Parkinson's
CC   disease, dementia, depression, anxiety, panic disorder, obsessive-
CC   compulsive disorder, post-traumatic stress disorder, schizophrenia,
CC   neuroleptic malignant syndrome and Tourette's syndrome, diseases
CC   involving excess water reabsorption by the kidney such as inappropriate
CC   ADH secretion (SIADH), cirrhosis, congestive heart failure, nephrosis,
CC   hypertension, for preventing and/or decreasing renal toxicity from
CC   cationic antibiotics (e.g. aminoglycoside antibiotics), gut motility
CC   disorders such as diarrhoea, and spastic colon, gastrointestinal (GI)
CC   ulcer diseases, GI diseases with excessive calcium absorption such as
CC   sarcoidosis, and autoimmune diseases and organ transplant rejection.
CC   (Updated on 07-AUG-2003 to correct OS field.)
XX
SQ   Sequence 1085 AA;

  Query Match             34.6%;  Score 1695.5;  DB 5;  Length 1085;
  Best Local Similarity   39.3%;  Pred. No. 2.8e-146;
  Matches  350;  Conservative  173;  Mismatches  323;  Indels   45;  Gaps   15;

Qy         53 LVIGGLFPIDSRTIPANESI-LEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNI 111
              :::||||||      :: :   | | :|  :||: |||::|||  |:|||    :|||:
Db         33 IILGGLFPIHFGVAVKDQDLKSRPESVECIRYNFRGFRWLQAMIFAIEEINSSPALLPNM  92

Qy        112 TLGYQIFDTCFTISKSVEAVLVFLTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSV 166
              ||||:|||||  |:||::|| | |:   :    |   | | :   |:   :||| || :|
Db         93 TLGYRIFDTCNTVSKALEATLSFVAQNKIDSLNLDEFCNCSEHIPSTIAVVGATGSGIST 152

Qy        167 PASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHFGWVWVGA 226
               : :|||:|:|||  | |:  :||:| || |:|| | :|: |: |:   |::| | |||
Db        153 AVANLLGLFYIPQVSYASSSRLLSNKNQFKSFLRTIPNDEHQATAMADIIEYFRWNWVGT 212

Qy        227 IAADDDYGKYGVKTFKEKMESANLCVAFSETIPKVYSNEKMQKAVKAVKTSTAKVIVLYT 286
              |||||||: |:: |:|: |  ::|: ||| | :    ||:|: |: :: |||||||:::
Db        213 IAADDDYGRPGIEKFREEAEERDICIDFSELISQYSDEEKIQQVVEVIQNSTAKVIVVFS 272

Qy        287 SDIDLSLFVLEMIHHNITDRTWIATEAWITSALIAKPEYFPYFGGTIGFATPRSVIPGLK 346
              |  ||   : |::  ||| | |:|:||| :|:||| ||||   ||||||      ||| :
Db        273 SGPDLEPLIKEIVRRNITGRIWLASEAWASSSLIAMPEYFHVVGGTIGFGLKAGQIPGFR 332

Qy        347 EFLYDVHPNKDPNDVLTIEFWQTAFNC-TWPNSSVPYNVDHRVNMTGKEDRLYDMSDQ-- 403
              |||  ||| |  ::    |||:  |||     :  | ||   : | |:    :|:
Db        333 EFLQKVHPRKSVHNGFAKEFWEETFNCHLQEGAKGPLPVD--TFLRGHEEGGARLSNSPT 390

Qy        404 ----LCTGEEKLEDLKNTYLDTSQLRITKQCKQAVYAIAHGLDHLSRCQEGQGPFGSNQQ 459
                  |||||| :  ::  |:| : |||:     |||:||| |  :  |  |:| | :|
Db        391 AFRPLCTGEENISSVETPYMDYTHLRISYNVYLAVYSIAHALQDIYTCIPGRGLF-TNGS 449

Qy        460 CAYIPTFDFWQLMYYMKEIKFKSHEDKWVILDDNGDLKNGHYDVLNWHLD-DEGEISFVT 518
              || |   : ||:: ::: : | |:  : |  |: ||| |:| ::|||  ::| | |
Db        450 CADIKKVEAWQVLKHLRHLNFTSNMGEQVTFDECGDLA-GNYSIINWHLSPEDGSIVFKE 508

Qy        519 VGRFNFRSTNPELVIPTNSTIFWNTESSRLPHSVCTDVCPPGTGRGFVQREPICCFDSIP 578
              || :|  :   | :  :  | |:  |  :| | |:  |  || :| :: || |||: :
Db        509 VGYYNVYAKKGERLFINDEKILWSGFSREVPFSNCSRDCLAGTRKGIIEGEPTCCFECVE 568

Qy        579 CADGHVSRKPGERECEQCGEDYWSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVV 638
              | ||  | :      |::| :|:|||   : |: ||:|:|:: |  |  | : :| | |:
Db        569 CPDGEYSDETDASACDKCPDDFWSNENHTSCIAKEIEFLSWTEPFGIALTLFAVLGIFLT 628

Qy        639 LAVTAVYVIHRHTPLVNASDWQLGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALG 698
                |  |::  |:||:| |:: :| :|:  ||:    ||: || :| :|:|   |    :
Db        629 AFVLGVFIKFRNTPIVKATNRELSYLLLFSLLCCFSSSLFFIGEPQDWTCRLRQPAFGIS 688

Qy        699 FSLCLSCLLGKTSSLFLAYRISKSKTQLTSMHPLYRK--------IIVLISVLABIGICT 750
              | ||:||:| ||: : | :   ::|   || |   ||         ::| :    :| ||
Db        689 FVLCISCILVKTNRVLLVF---EAKIP-TSFH---RKWWGLNLQFLLVFLCTFMQIVICA 741

Qy        751 AYLILEPPMVYKNMESQNTKIILGCNEISIEFLYSMFGIDAFLALLCFLTTFVARQLPDN 810
               :|   ||  |:| | ::  | : |:| |:  |  : |    || :||   | :|:||:|
Db        742 IWLNTAPPSSYRNHELEDEIIFITCHEGSLMALGFLIGYTCLLAAICFFFAFKSRKLPEN 801

Qy        811 YYEGKCITFGMLVFFIIWMSFVPVYLSTKGKFKMAVEIFAILASSHGLLGCIFAPKCLII 870
              : | | ||| ||:|||:|:||:| | || |||  |||: ||||:| ||| |||  |  ||
Db        802 FNEAKFITFSMLIFFIVWISFIPAYASTYGKFVSAVEVIAILAASFGLLACIFFNKVYII 861

Qy        871 LLRPERNTSEIVCGRVSTTDNCIQLTSAFV----------SSELNNTTVST 911
              | :| ||| | |  | ||  :  :: :             || |  :| ||
Db        862 LFKPSRNTIEEV--RCSTAAHAFKVAARATLRRSNVSRQRSSSLGGSTGST 910


RESULT 14
ADJ93194
ID   ADJ93194 standard; protein; 1085 AA.
XX
AC   ADJ93194;
XX
DT   06-MAY-2004  (first entry)
XX
DE   Bovine extracellular Ca-sensing receptor.
XX
KW   immunosuppressive; cardiant; antiinflammatory; cytostatic; anti-HIV;
KW   antirheumatic; antiarthritic; antibacterial; antiseborrheic;
KW   dermatological; antipsoriatic; neuroprotective; nootropic;
KW   antiparkinsonian; antidiabetic; ophthalmological; antiasthmatic;
KW   antidepressant; neuroleptic; hypotensive; tranquilizer; hypertensive;
KW   anorectic; metabolic; virucide; osteopathic; antianginal; vulnerary;
KW   gene therapy; G-protein coupled receptor protein; HGPRBMY30;
KW   immune disorder; cardiovascular disorder; inflammatory disorder;
KW   metabolic disorder; reproductive disorder; testicular cancer;
KW   neural disorder; endocrine disorder; gastrointestinal disorder;
KW   Alzheimer's disease; Parkinson's diseases; diabetes; dwarfism; asthma;
KW   schizophrenia; obesity; anorexia; osteoporosis; angina pectoris;
KW   myocardial infarction.
XX
OS   Bos taurus.
XX
PN   WO200296946-A1.
XX
PD   05-DEC-2002.
XX
PF   30-MAY-2002; 2002WO-US017085.
XX
PR   30-MAY-2001; 2001US-0294411P.
XX
PA   (BRIM ) BRISTOL-MYERS SQUIBB CO.
XX
PI   Feder JN,  Mintier GA,  Ramanathan C;
XX
DR   WPI; 2003-140445/13.
XX
PT   Novel human G-protein coupled receptor, HGPRBMY30 polypeptide useful for
PT   preventing and treating e.g. immune disorders, cardiovascular disorders
PT   or inflammatory disorders.
XX
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PS   Disclosure; SEQ ID NO 109; 343pp; English.
XX
CC   The invention relates to an isolated human G-protein coupled receptor,
CC   HGPRBMY30 polypeptide or a sequence having 95% identity to the above
CC   mentioned sequences. (I) is useful for preventing or treating a medical
CC   condition, selected from an immune disorder; a cardiovascular disorder;
CC   an inflammatory disorder in which G-protein coupled receptors are either
CC   directly, or indirectly, associated with the disorder; a metabolic
CC   disorder; a reproductive disorder; a male reproductive disorder;
CC   testicular cancer; a neural disorder; an endocrine disorder;
CC   gastrointestinal disorder; (I) and (II) are also useful for detecting,
CC   prognosing, preventing, treating, and/or ameliorating the diseases such
CC   as hematopoietic and pulmonary disorders, Alzheimer's, Parkinson's
CC   diseases, diabetes, dwarfism, color blindness, retinal pigmentosa,
CC   asthma, expression, schizophrenia, sleeplessness, hypertension, anxiety,
CC   stress, renal failure, acute heart failure, hypotension, obesity,
CC   anorexia, HIV infections, osteoporosis, angina pectoris, and myocardial
CC   infarction. (I) and (II) are useful for modulating signal transduction
CC   activity. (I) and (II) are useful as an inhibitor of chemotaxis, as a
CC   food additive or preservative, and for modifying the activities of (I).
CC   (I) and (II) also useful to modulate mammalian characteristics, such as
CC   body height, weight, hair color, eye color, skin, percentage of adipose
CC   tissue, pigmentation, size and shape, to change a mammal's mental state
CC   or physical state by influencing biorhythms, caricadic rhythms,
CC   depression, tendency for violence, tolerance for pain, reproductive
CC   capabilities, hormonal or endocrine levels, appetite, libido, memory,
CC   stress, or other cognitive qualities. This sequence corresponds a protein
CC   having similarity to the novel HGPRBMY30 protein.
XX
SQ   Sequence 1085 AA;

  Query Match             34.6%;  Score 1695.5;  DB 7;  Length 1085;
  Best Local Similarity   39.3%;  Pred. No. 2.8e-146;
  Matches  350;  Conservative  173;  Mismatches  323;  Indels   45;  Gaps   15;

Qy         53 LVIGGLFPIDSRTIPANESI-LEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNI 111
              :::||||||       :: :   | | :|  :||: |||::|||  |:|||    :|||:
Db         33 IILGGLFPIHFGVAVKDQDLKSRPESVECIRYNFRGFRWLQAMIFAIEEINSSPALLPNM 92

Qy        112 TLGYQIFDTCFTISKSVEAVLVFLTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSV 166
              ||||:|||||  |:||::||  | |:   :    |   | | :   |:   :|||  || :|
Db         93 TLGYRIFDTCNTVSKALEATLSFVAQNKIDSLNLDEFCNCSEHIPSTIAVVGATGSGIST 152

Qy        167 PASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHFGWVWVGA 226
                : :|||:|:|||  | |:  :||:| ||  |:||  | :|:  |: |:   |::|  | |||
Db        153 AVANLLGLFYIPQVSYASSSRLLSNKNQFKSFLRTIPNDEHQATAMADIIEYFRWNWVGT 212

Qy        227 IAADDDYGKYGVKTFKEKMESANLCVAFSETIPKVYSNEKMQKAVKAVKTSTAKVIVLYT 286
              ||||||||: |:: |:|: |  ::|: ||| | :     ||:|: |: :: |||||||:::
Db        213 IAADDDYGRPGIEKFREEAEERDICIDFSELISQYSDEEKIQQVVEVIQNSTAKVIVVFS 272

Qy        287 SDIDLSLFVLEMIHHNITDRTWIATEAWITSALIAKPEYFPYFGGTIGFATPRSVIPGLK 346
              |  ||   : |::  ||| | |:|:||| :|:||| ||||   ||||||      ||| :
Db        273 SGPDLEPLIKEIVRRNITGRIWLASEAWASSSLIAMPEYFHVVGGTIGFGLKAGQIPGFR 332

Qy        347 EFLYDVHPNKDPNDVLTIEFWQTAFNC-TWPNSSVPYNVDHRVNMTGKEDRLYDMSDQ-- 403
              |||  ||| |  ::    |||:  |||     :  |  ||    : | |:    :|:
Db        333 EFLQKVHPRKSVHNGFAKEFWEETFNCHLQEGAKGPLPVD--TFLRGHEEGGARLSNSPT 390

Qy        404 ----LCTGEEKLEDLKNTYLDTSQLRITKQCKQAVYAIAHGLDHLSRCQEGQGPFGSNQQ 459
                  |||||| :  ::  |:| : |||:     |||:||| |  :  |  |:| | :|
Db        391 AFRPLCTGEENISSVETPYMDYTHLRISYNVYLAVYSIAHALQDIYTCIPGRGLF-TNGS 449

Qy        460 CAYIPTFDFWQLMYYMKEIKFKSHEDKWVILDDNGDLKNGHYDVLNWHLD-DEGEISFVT 518
              || |   : ||:: ::: : | |:  : |  |: |||  |:| ::||||  ::| | |
Db        450 CADIKKVEAWQVLKHLRHLNFTSNMGEQVTFDECGDLA-GNYSIINWHLSPEDGSIVFKE 508

Qy        519 VGRFNFRSTNFELVIPTNSTIFWNTESSRLPHSVCTDVCPPGTGRGFVQREPICCFDSIP 578
              || :|  :   | :   :  | |:  |  :| | |:  |  || :| :: || |||: :
Db        509 VGYYNVYAKKGERLFINDEKILWSGFSREVPFSNCSRDCLAGTRKGIIEGEPTCCFECVE 568

Qy        579 CADGHVSRKPGERECEQCGEDYWSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVV 638
              | ||  | :     |::| :|:|||   : |: ||:|:|:: |  |  | : :| | |:
Db        569 CPDGEYSDETDASACDKCPDDFWSNENHTSCIAKEIEFLSWTEPFGIALTLFAVLGIFLT 628

Qy        639 LAVTAVYVIHRHTPLVNASDWQLGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALG 698
                |  |::  |:||:| |:: :| :|:  ||:    ||: || :| :|:|    |    :
Db        629 AFVLGVFIKFRNTPIVKATNRELSYLLLFSLLCCFSSSLFFIGEPQDWTCRLRQPAFGIS 688

Qy        699 FSLCLSCLLGKTSSLFLAYRISKSKTQLTSMHPLYRK--------IIVLISVLAEIGICT 750
              | ||:||:| ||: : | :   ::|   || |   ||        ::| :    :| ||
Db        689 FVLCISCILVKTNRVLLVF---EAKIP-TSFH---RKWWGLNLQFLLVFLCTFMQIVICA 741

Qy        751 AYLILEPPMVYKNMESQNTKIILGCNEISIEFLYSMFGIDAFLALLCFLTTFVARQLPDN 810
              :|   ||  |:| | ::  | : |:| |:  |  : |    || :||   | :|:||:|
Db        742 IWLNTAPPSSYRNHELEDEIIFITCHEGSLMALGFLIGYTCLLAAICFFFAFKSRKLPEN 801

Qy        811 YYEGKCITFGMLVFFIIWMSFVPVYLSTKGKFKMAVEIFAILASSHGLLGCIFAPKCLII 870
              : | | ||| ||:|||:|:||:| | || ||| |||: ||||:| ||| |||  |  ||
Db        802 FNEAKFITFSMLIFFIVWISFIPAYASTYGKFVSAVEVIAILAASFGLLACIFFNKVYII 861

Qy        871 LLRPERNTSEIVCGRVSTTDNCIQLTSAFV----------SSELNNTTVST 911
              | :| ||| | |  | ||  :  :: :             || |  :| ||
Db        862 LFKPSRNTIEEV--RCSTAAHAFKVAARATLRRSNVSRQRSSSLGGSTGST 910


RESULT 15
ADI40961
ID   ADI40961 standard; protein; 1085 AA.
XX
AC   ADI40961;
XX
DT   22-APR-2004  (first entry)
XX
DE   Bovine GPCR CASR.
XX
KW   Receptor; GPCR; G protein-coupled receptor; reproductive disorder;
KW   testicular disorder; vas deferens disorder; spermatogenesis; infertility;
KW   XX male; epididymitis; cryptorchidism; sperm transport disorder;
KW   testicular cancer; testicular germ cell tumour; male hormone disorder;
KW   premature puberty; Kallman syndrome; Cushing's syndrome; immune disorder;
KW   leukaemia; arthritis; asthma; AIDS; rheumatoid arthritis;
KW   inflammatory bowel disease; sepsis; T-cell mediated cytotoxicity;
KW   graft-versus-host disease; autoimmunity disorder;
KW   systemic lupus erythematosus; drug induced haemolytic anaemia;
KW   Sjogren's disease; T-cell maturation disorder;
KW   B-cell maturation disorder; vascular disorder; stroke; ischaemia;
KW   myocardial infarction; atherosclerosis; gastrointestinal disorder; ulcer;
KW   pulmonary disorder; brain disorder; endocrine disorder; cancer;
KW   gene therapy.
XX
OS   Bos taurus.
XX
PN   US2004018976-A1.
XX
PD   29-JAN-2004.
XX
PF   13-MAY-2003; 2003US-00436715.
XX
PR   14-MAY-2002; 2002US-0380336P.
XX
PA   (FEDE/) FEDER J N.
PA   (MINT/) MINTIER G.
PA   (RAMA/) RAMANATHAN C S.
XX
PI   Feder JN,  Mintier G,  Ramanathan CS;
XX
DR   WPI; 2004-122081/12.
XX
PT   New human G-protein coupled receptor polypeptide and polynucleotide,
PT   useful for diagnosing, preventing, treating or ameliorating a medical
PT   condition, e.g. reproductive disorder, immunodeficiency disease or
PT   testicular cancer.
XX
PS   Disclosure; SEQ ID NO 21; 290pp; English.
XX
```

CC The invention relates to an isolated human G protein-coupled receptor
CC polypeptide and its encoding polynucleotide, including the full length
CC proteins minus the start methionine (and the region of the polynucleotide
CC encoding this protein region). The proteins are designated HGPRBMY30-1,
CC HGPRBMY30-2, HGPRBMY30-3, HGPRBMY41-1, HGPRBMY41-2, HGPRBMY41-3,
CC HGPRBMY42, HGPRBMY42-1, HGPRBMY43 and HGPRBMY44. Also included are
CC expression vectors, host cells, antibodies, preventing (treating or
CC ameliorating) a medical condition comprising administering to a mammalian
CC subject the polypeptide or its modulator and diagnosing a pathological
CC condition or a susceptibility to a pathological condition in a subject
CC (comprising determining the presence or absence of a mutation in the
CC polynucleotide, or the presence or amount of expression of the
CC polypeptide in a biological sample and diagnosing a pathological
CC condition or a susceptibility to a pathological condition based on the
CC presence or absence of the mutation, or the presence or amount of
CC expression of the polypeptide). The human G-protein coupled receptor
CC polypeptide or polynucleotide can be used for diagnosing a pathological
CC condition or a susceptibility to a pathological condition in a subject,
CC and for preventing, treating or ameliorating a medical condition, such as
CC a disorder related to aberrant G-protein coupled receptor activity, a
CC disorder related to aberrant signal transduction, a reproductive disorder
CC ; a male reproductive disorder, a testicular disorder, a vas deferens
CC disorder, spermatogenesis, infertility, Klinefelter's syndrome, XX male,
CC epididymitis, genital warts, germinal cell aplasia, cryptorchidism,
CC varicocele, immotile cilia syndrome, viral orchitis, sperm transport
CC disorders, testicular cancer, choriocarcinoma, non-seminoma, seminoma,
CC testicular germ cell tumours, male hormone disorders, premature puberty,
CC incomplete puberty, Kallman syndrome, Cushing's syndrome, an immune
CC disorder, a proliferative immune disorder, leukaemia, arthritis, asthma,
CC immunodeficiency diseases such as AIDS, rheumatoid arthritis,
CC granulomatous disease, inflammatory bowel disease, sepsis, acne,
CC neutropenia, neutrophilia, psoriasis, hypersensitivities, such as T-cell
CC mediated cytotoxicity, immune reactions to transplanted organs and
CC tissues, such as host-versus-graft and graft-versus-host diseases, or
CC autoimmunity disorders, such as autoimmune infertility, demyelination,
CC systemic lupus erythematosus, drug induced haemolytic anaemia, Sjogren's
CC disease, scleroderma, T-cell maturation disorders, B-cell maturation
CC disorders, vascular disorders, stroke, ischaemia, myocardial infarction,
CC atherosclerosis, embolisms, thrombosis, gastrointestinal disorders,
CC irritable bowel syndrome, ulcers, pulmonary disorders, brain disorders,
CC endocrine disorders, or ovarian, stomach, colon or kidney cancer or its
CC related proliferative condition (many other diseases and disorders are
CC listed in the specification). The antibodies may be used to purify,
CC detect and target the G-protein coupled receptor polypeptides. The
CC polynucleotides are also useful in gene therapy. The present sequence
CC represents a species homologue of a novel GPCR of the invention.
XX
SQ Sequence 1085 AA;

Query Match 34.6%; Score 1695.5; DB 8; Length 1085;
Best Local Similarity 39.3%; Pred. No. 2.8e-146;
Matches 350; Conservative 173; Mismatches 323; Indels 45; Gaps 15;

```
Qy        53 LVIGGLFPIDSRTIPANESI-LEPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNI 111
             :::||||||       :: :   | | :|  :||: |||::|||  |:|||    :|||:
Db        33 IILGGLFPIHFGVAVKDQDLKSRPESVECIRYNFRGFRWLQAMIFAIEEINSSPALLPNM 92

Qy       112 TLGYQIFDTCFTISKSVEAVLVFLTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSV 166
             ||||:|||||  |:||::|| | |:   :    |   | | :   |:   :||| || :|
Db        93 TLGYRIFDTCNTVSKALEATLSFVAQNKIDSLNLDEFCNCSEHIPSTIAVVGATGSGIST 152

Qy       167 PASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHFGWVWVGA 226
               : :|||:|:||| | |:  :||:| || |:|| | :|: |: |:   |::| | |||
Db       153 AVANLLGLFYIPQVSYASSSRLLSNKNQFKSFLRTIPNDEHQATAMADIIEYFRWNWVGT 212

Qy       227 IAADDDYGKYGVKTFKEKMESANLCVAFSETIPKVYSNEKMQKAVKAVKTSTAKVIVLYT 286
             ||||||||: |:: |:|: |  ::|: ||| | :    ||:|: |: :: |||||||:::
Db       213 IAADDDYGRPGIEKFREEAEERDICIDFSELISQYSDEEKIQQVVEVIQNSTAKVIVVFS 272

Qy       287 SDIDLSLFVLEMIHHNITDRTWIATEAWITSALIAKPEYFPYFGGTIGFATPRSVIPGLK 346
             |  ||   : |::  ||| | |:|:||| :|:||| ||||   ||||||      ||| :
Db       273 SGPDLEPLIKEIVRRNITGRIWLASEAWASSSLIAMPEYFHVVGGTIGFGLKAGQIPGFR 332

Qy       347 EFLYDVHPNKDPNDVLTIEFWQTAFNC-TWPNSSVPYNVDHRVNMTGKEDRLYDMSDQ-- 403
             |||  ||| |  ::    |||:  |||     :  |  ||    : | |:    :|:
Db       333 EFLQKVHPRKSVHNGFAKEFWEETFNCHLQEGAKGPLPVD--TFLRGHEEGGARLSNSPT 390

Qy       404 ----LCTGEEKLEDLKNTYLDTSQLRITKQCKQAVYAIAHGLDHLSRCQEGQGPFGSNQQ 459
                 ||||||  :  ::  |:| : |||:     |||:|||  |  :  |  |:| | :|
Db       391 AFRPLCTGEENISSVETPYMDYTHLRISYNVYLAVYSIAHALQDIYTCIPGRGLF-TNGS 449

Qy       460 CAYIPTFDFWQLMYYMKEIKFKSHEDKWVILDDNGDLKNGHYDVLNWHLD-DEGEISFVT 518
             || |   : ||:: ::: : | |:  :  |  |: |||  |:| ::||||  ::| | |
Db       450 CADIKKVEAWQVLKHLRHLNFTSNMGEQVTFDECGDLA-GNYSIINWHLSPEDGSIVFKE 508

Qy       519 VGRFNFRSTNFELVIPTNSTIFWNTESSRLPHSVCTDVCPPGTGRGFVQREPICCFDSIP 578
             || :|  :   | :   :  | |:  |  :| | |:  |  || :| :: || |||: :
Db       509 VGYYNVYAKKGERLFINDEKILWSGFSREVPFSNCSRDCLAGTRKGIIEGEPTCCFECVE 568

Qy       579 CADGHVSRKPGERECEQCGEDYWSNAQKSECVLKEVEYLAYDEALGFTLVILSVFGAFVV 638
             | ||  | :     |::| :|:|||   : |: ||:|:|:: |  |  | : :| | |:
Db       569 CPDGEYSDETDASACDKCPDDFWSNENHTSCIAKEIEFLSWTEPFGIALTLFAVLGIFLT 628

Qy       639 LAVTAVYVIHRHTPLVNASDWQLGFLIQVSLIIMLLSSMLFIDKPHNWSCMAGQVTLALG 698
               |  |::  |:||:| |:: :| :|:  ||:    ||: || :| :|:|  |    :
Db       629 AFVLGVFIKFRNTPIVKATNRELSYLLLFSLLCCFSSSLFFIGEPQDWTCRLRQPAFGIS 688

Qy       699 FSLCLSCLLGKTSSLFLAYRISKSKTQLTSMHPLYRK--------IIVLISVLAEIGICT 750
             | ||:||:| ||: : | :   ::|   || |   ||        ::| :    :| ||
Db       689 FVLCISCILVKTNRVLLVF---EAKIP-TSFH---RKWWGLNLQFLLVFLCTFMQIVICA 741

Qy       751 AYLILEPPMVYKNMESQNTKIILGCNEISIEFLYSMFGIDAFLALLCFLTTFVARQLPDN 810
               :|   ||  |:| | ::  | : |:|  |:  |  : |    || :||   | :|:||:|
Db       742 IWLNTAPPSSYRNHELEDEIIFITCHEGSLMALGFLIGYTCLLAAICFFFAFKSRKLPEN 801

Qy       811 YYEGKCITFGMLVFFIIWMSFVPVYLSTKGKFKMAVEIFAILASSHGLLGCIFAPKCLII 870
               : | | ||| ||:|||:|:||:| | || |||  |||: ||||:| ||| |||  |  ||
Db       802 FNEAKFITFSMLIFFIVWISFIPAYASTYGKFVSAVEVIAILAASFGLLACIFFNKVYII 861

Qy       871 LLRPERNTSEIVCGRVSTTDNCIQLTSAFV----------SSELNNTTVST 911
             | :| ||| | |  | ||  :  :: :              || |  :| ||
Db       862 LFKPSRNTIEEV--RCSTAAHAFKVAARATLRRSNVSRQRSSSLGGSTGST 910
```

Search completed: February 16, 2005, 16:32:06
Job time : 182.989 secs

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